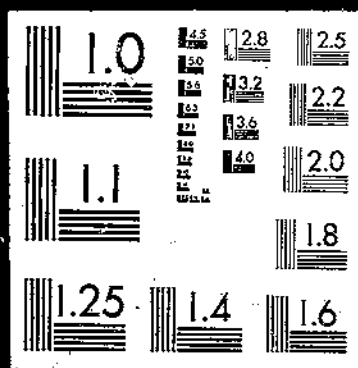FAER-209 FOREIGN EXCHANGE CONSTRAINTS TO TRADE AND DEVELOPMENT. (FO
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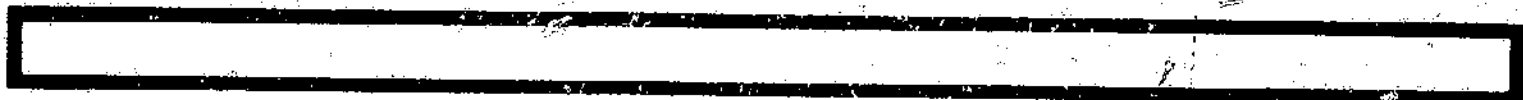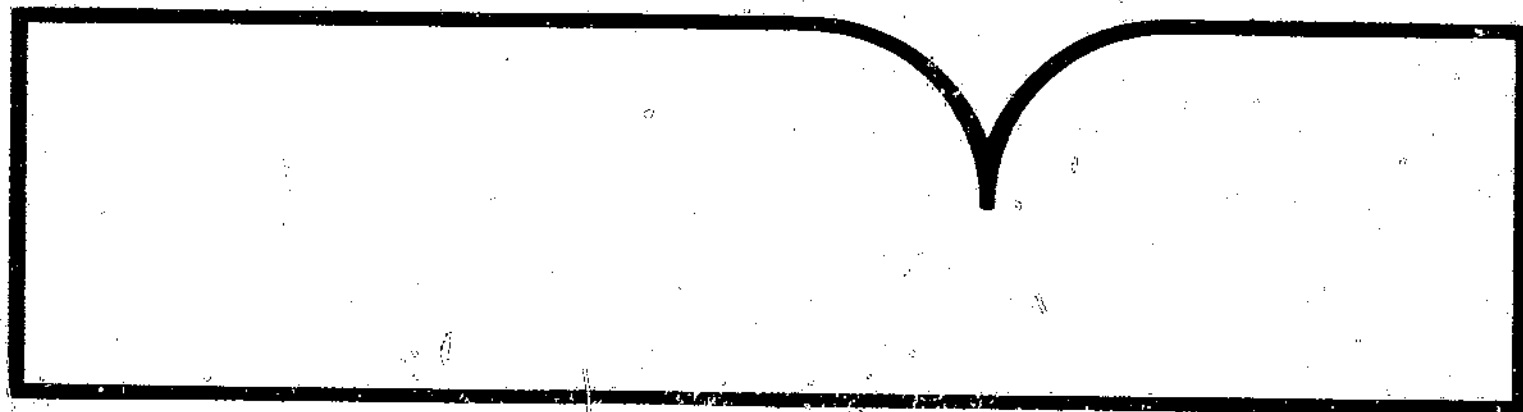CH SERVICE, WASHINGTON, DC. INTERNATIONAL ECONOMICS DIV. NOV 84 6
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PB 85

134 385

Foreign Exchange Constraints to
Trade and Development

(U.S.) Economic Research Service, Washington, DC

Nov 84

50272-101

REPORT DOCUMENTATION PAGE	1. REPORT NO. FAER-209	2.	3. Recipient's Accession No. PB8 5 1 3 4 3 8 5

4. Title and Subtitle	5. Report Date
Foreign Exchange Constraints to Trade and Development	November 1984
	6.

7. Author(s) Philip C. Abbott	8. Performing Organization Rept. No. FAER-209

9. Performing Organization Name and Address	10. Project/Task/Work Unit No.
International Economics Division Economic Research Service U.S. Department of Agriculture Washington, D.C. 20250	
	11. Contract(C) or Grant(G) No. (C) (G)

12. Sponsoring Organization Name and Address	13. Type of Report & Period Covered
SAME AS BOX 9	
	14.

15. Supplementary Notes

16. Abstract (Limit: 200 words)

Many less developed countries (LDC's), facing huge trade deficits and shortages of foreign exchange, reduced their agricultural imports over the past few years from the United States and others. Unless cash-short LDC's increase their exports and obtain food financial aid, agricultural imports by LDC's will grow much slowly in the next decade than in the last. While many LDC's face long-term problems, others appear to be in short-term liquidity crises; if their export growth resumes, so will their agricultural imports. China, Brazil, Mexico, Nigeria, and India are key to world cereal trade. Those projections are based on a two-gap model applied to 31 LDC's.

17. Document Analysis   a. Descriptors

Agriculture
Economic analysis
Exports
Imports

Economic development
Foreign trade
Foreign exchange
Trade

b. Identifiers/Open-Ended Terms
Agricultural exports
Agricultural imports
Agricultural trade
Financial aid

Trade deficits

c. COSATI Field/Group   02-B; 05-C

18. Availability Statement National Technical Information Service 5285 Port Royal Road, Springfield, VA 22161	19. Security Class (This Report) Unclassified	21. No. of Pages 60
	20. Security Class (This Page) Unclassified	22. Price See box 17

(See ANSI-Z39.18)   See Instructions on Reverse

OPTIONAL FORM 272 (4-77)
(Formerly NTIS-35)
Department of Commerce

United States
Department of
Agriculture

Economic
Research
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Foreign
Agricultural
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Report
Number 209

Foreign Exchange Constraints to Trade and Development

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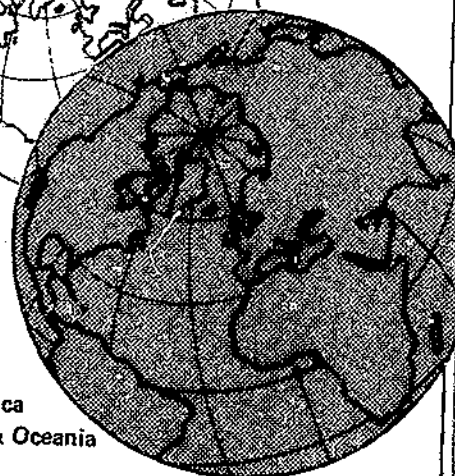
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Foreign Exchange Constraints to Trade and Development, by Philip C. Abbott. International Economics Division, Economic Research Service, U.S. Department of Agriculture. Foreign Agricultural Economic Report No. 209.

Abstract

Many less developed countries (LDC's), facing huge trade deficits and shortages of foreign exchange, reduced their agricultural imports over the past few years from the United States and others. Unless cash-short LDC's increase their exports and obtain food and financial aid, agricultural imports by LDC's will grow much more slowly in the next decade than in the last. While many LDC's face long-term problems, others appear to be in short-term liquidity crises; if their export growth resumes, so will their agricultural imports. China, Brazil, Mexico, Nigeria, and India are key to world cereal trade. Those projections are based on a two-gap model applied to 31 LDC's.

Keywords: Less developed countries, agricultural trade, economic development, trade deficits.

Washington, D.C. 20250

November 1984

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Acknowledgments

Contents

Summary

Sagging U.S. agricultural exports in the last few years can be partly traced to high trade deficits and foreign exchange shortages among less developed countries (LDC's). LDC's purchased nearly half of all world cereal exports in the seventies and 42 percent of U.S. cereal exports. Many LDC's are likely to face continuing foreign exchange deficits as imports grow faster than exports and, in some cases, as exports decline. Severe measures taken by many LDC's to curb import growth are likely to result in economic stagnation.

Foreign exchange problems in less developed countries will probably hurt U.S. agricultural exports. The United States, by helping these countries overcome foreign exchange problems, would in effect be strengthening its overseas sales of agricultural products. But, if LDC's receive insufficient aid and are unable to expand exports, they will likely encourage self-sufficiency in their agricultural sector. If that happens, LDC agricultural imports will not grow at the rapid rate of the 1970's and world grain trade may stagnate.

The boom in LDC agricultural trade in the seventies was founded on a network of reciprocity: in order for LDC's to buy goods on the world market, they had to earn foreign exchange by selling goods, mostly to developed economies. Without such export markets, including the U.S. market, growth in LDC exports, as well as their agricultural imports, will be slower than in the 1970's; reciprocity would suffer.

In these longrun projections of agricultural trade by LDC's, five countries are crucial to expanding LDC grain imports: Brazil, Mexico, China, Nigeria, and India. Yet these countries face considerable uncertainty in their ability to generate foreign exchange earnings or increase agricultural production.

This report evaluates the likelihood and causes of a long-term slowing of agricultural imports by LDC's as a result of their current foreign exchange difficulties. Of 31 countries studied, approximately half are projected to experience long-term foreign exchange shortages that may lead to severe import and growth constraints and possibly falling per capita incomes. In the other half, however, foreign exchange problems appear to be due to short-term liquidity crises, so that if export growth trends resume, so will economic growth and agricultural import growth.

The LDC's projected to face long-term foreign exchange shortages include Algeria, Bangladesh, Chad, Colombia, Egypt, India, Iran, Niger, Nigeria, Morocco, Pakistan, Portugal, Senegal, Sri Lanka, Sudan, Upper Volta, and Venezuela.

The LDC's projected to continue to import significant volumes of agricultural goods, as well as continue to export significant volumes of their own, include Afghanistan, Brazil, Chile, China, Hong Kong, Indonesia, Iraq, Mali, Mexico, Peru, Philippines, Saudi Arabia, Singapore, and South Korea.

These conclusions are based on projections to 1990 using a simple disaggregated two-gap model for 31 LDC's. The model's projected growth rates, trade, and foreign exchange position are presented in detailed tables for each country and implications for agricultural trade under alternative assumptions are explored.

Foreign Exchange Constraints to Trade and Development

Philip C. Abbott*

Introduction

Potential defaults in Brazil and Mexico as well as the rescheduling of debt in several less developed countries (LDC's) have raised concern over foreign exchange difficulties in LDC's and their implications for international financial institutions. While some of these problems are short term, reflecting liquidity crises or debt mismanagement, the foreign exchange problems of many LDC's are symptomatic of longer term trade imbalances as well as the importance of foreign trade to LDC economic health. Related to those issues are their implications for longer term economic growth and trade, particularly agricultural trade, by the LDC's.

This report assesses the impact of foreign exchange shortages in developing countries on longrun growth in agricultural trade by looking at the relationship between agricultural trade and foreign exchange positions of LDC's in the context of economic development. A simple economic growth model is used to analyze the following questions:[1]

1. What will be the requirements for net foreign capital inflows (foreign exchange) if the trends in economic growth and agricultural production of the last decade continue into the eighties?

2. What would be the effect on economic growth and, in turn, on agricultural trade if increased foreign capital inflows are not forthcoming?

3. What implications do these foreign exchange problems have for growth of agricultural trade and the role of LDC's in international grain trade and international agricultural trade?

The model suggests that LDC's should be divided into two distinct groups. Those countries that have experienced rapid export growth will continue to expand grain imports, even if their rate of growth of export earnings is reduced. Fourteen of the 31 LDC's examined here fall in this category, which includes many of the important agricultural importers. Most LDC's, however, have experienced declines in export earnings and are likely to need substantially greater amounts of grain and other agricultural commodities but will be unable to afford them; 17 countries are in this situation.

In the seventies, LDC's emerged as important importers of agricultural commodities. Agricultural import volume for all developing countries rose at an annual rate of 8.2 percent per year over the seventies to $66.3 billion, while the volume of agricultural exports by LDC's rose by 1.5 percent per year to $69 billion. The growth in trade was particularly pronounced for cereals, where growth in volume averaged 11.4 percent per year, accounting for about 50 percent of the growth in total cereal trade over that decade.

The United States has benefited from this expansion of LDC agricultural imports. In 1980, imports of agricultural commodities by LDC's from the United States accounted for 35 percent of the value of total U.S. agricultural exports, and grain imports by LDC's were 42 percent of U.S. grain exports and 45 percent of worldwide grain exports.

LDC grain imports may rise between 7 and 9 percent per year through 1990 if projected income

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growth is realized and if LDC's continue to fill the gap of food shortages created by inadequate agricultural production (12).[2]

But the financial difficulties of many LDC's raise doubt about the projected rates of LDC economic growth and LDC's ability to pay for imports between 1980 and 1990. Export earnings of the 33 low-income developing countries have actually declined by 0.8 percent per year while imports have increased by 3.2 percent per year. In middle-income developing countries, the rate of growth of imports has exceeded that of exports by 0.6 percent per year. Trade deficits and hence net foreign capital inflows to LDC's have increased substantially. Many LDC's went to commercial sources to finance their increasing debt. Increased real interest rates and the inability of some LDC's to pay their debts on time have recently caused international lenders to reduce the availability of financing to LDC's. This happened at a time when foreign aid to LDC's was declining in real terms and worldwide recession reduced the market for LDC exports. If these trends continue, LDC's will be hard pressed to continue their program of agricultural imports because foreign exchange earned from their exports is so much less than what is needed.

Agricultural imports currently constitute only a small part of the total import bill for LDC's: 17 percent for the low-income LDC's and 12 percent for the middle-income LDC's. Yet, this portion will increase if the projected food deficits for LDC's are to be imported, unless substantially increased food aid allocations are made available. Furthermore, every dollar spent on grain imports reduces the availability of foreign exchange to pay for energy and capital imports needed for economic growth. Policy adjustments in LDC's are likely to lead to reduced agricultural imports due to reduced economic growth, dampened domestic demand, and import restriction policies by LDC governments.

A shortage of foreign exchange earnings among LDC's is one of several reasons for expecting substantially reduced growth in agricultural trade — particularly grain trade — over the next decade. We already see the effects of these problems on U.S. and worldwide agricultural trade. Between 1980 and

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[2]Italicized numbers in parentheses refer to sources listed in the References at the end of this publication.

1982, U.S. agricultural exports to LDC's fell by $1.73 billion, with 72 percent of that decline due to reductions in grain imports.

The model's projections are relatively insensitive to changes in international grain and energy prices when domestic markets are insulated from those changes. They are sensitive to assumptions concerning the performance of the agricultural sector as well as to substantial changes in export earnings by the LDC's. Five countries are key to long-term developments in international grain markets: Brazil, Mexico, China, India, and Nigeria.

Since the model used is a simple one, the projections presented ignore the possibility that policies will evolve in those and other LDC's to deal with their foreign exchange crises and lessen the impact of these problems on economic development. The impact on agricultural trade is uncertain, since some countries will expand their agricultural sector while others will do better by specializing in nonagricultural goods. The model provides a useful framework for examining those alternatives.

Data were collected and results obtained for the following countries: Afghanistan, Algeria, Bangladesh, Brazil, Chad, Chile, China, Colombia, Egypt, Hong Kong, India, Indonesia, Iran, Iraq, Mali, Mexico, Morocco, Niger, Nigeria, Pakistan, Peru, Philippines, Portugal, Saudi Arabia, Senegal, Singapore, South Korea, Sri Lanka, Sudan, Upper Volta, and Venezuela. These include the less developed countries most important in international cereals trade as well as selected countries likely to experience severe foreign exchange difficulties over the next decade. Total cereal imports for these countries amounted to 31 percent of world cereal imports in 1979, and accounted for 92 percent of cereal imports by developing countries. Some of these countries are net exporters of other agricultural commodities, while others are net importers. Their balance of trade in 1979 ranged from a deficit of 38 percent of gross national product (GNP) in 1979 to a surplus of 63 percent of GNP in 1979, with 11 countries realizing deficits in excess of 10 percent of GNP.

The implications of the longer run trade problems with LDC's go beyond the role of LDC's as markets for U.S. agricultural exports. Exports by LDC's play a crucial role in both agricultural trade and economic

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development of LDC's. If the United States is to deal with these problems and reap the benefits of increased agricultural exports, it must serve both as a market for LDC exports and as a source of foreign capital—both loans and aid. Furthermore, the likely food gaps for the poorer LDC's will mean an even greater need for P.L. 480 (food) aid to those countries.

The Two-Gap Model

The studies projecting world food needs share a common methodology (8, 12). In this report, that methodology is extended to calculate a foreign exchange gap (excess demand for foreign exchange) based on energy, capital, intermediate goods, and other import demands by LDC's as well as on the food gap (excess demand for food). The methodology is then modified, using the approach of the two-gap development model, to examine the implications for economic growth and agricultural trade in an LDC when net foreign capital inflows (loans and aid less debt service) are assumed to remain at current constant dollar levels and a foreign exchange equilibrium must be achieved. In this section, the model specifications used to project the food and foreign exchange gaps and to determine an equilibrium in the foreign exchange market are presented and discussed.

The models used by IFPRI and FAO (International Food Policy Research Institute and Food and Agriculture Organization of the United Nations) to generate projections of LDC food import needs are based on a gap analysis, whereby growth in production of and demand for agricultural commodities is exogenously set at historical trend rates or projected rates. Trade is assumed to fill the resulting gap between supply and demand. Since most LDC's market shares of international trade are small, the model assumes that LDC's will not affect world market prices. If, however, the estimated food gap requires a foreign exchange expenditure that exceeds a country's ability to pay, the demand growth assumptions of the gap analysis will be too optimistic. The limited amount of foreign exchange will act as a constraint on economic growth. For most LDC's, food imports alone will not exceed export earnings; but when food imports are coupled with imports of other goods, especially energy, capital, and intermediate goods, then foreign exchange limitations may

seriously reduce demand growth for agricultural commodities.

The first model described follows the approach of the IFPRI and FAO studies, adding energy, capital, luxury, and intermediate goods and nonagricultural export goods. Historical trends for each sector determine production and an exogenously assumed income growth, along with demand parameters, sets consumption, and hence net trade. Net foreign capital flows are then calculated using the projected gaps and exogenous international prices.

The second model is a modified version of the first, and focuses on how income and demand growth rates adjust to foreign exchange availability so that an equilibrium in foreign exchange markets is achieved. I used a disaggregated version of the Chenery-Strout two-gap model of economic growth to project economic growth rates consistent with trend growth in export earnings. For those projected growth rates, I then projected agricultural trade using the same procedures as in the gap analysis model of IFPRI and FAO. Two-gap models assume that foreign exchange demands and availability can restrict economic growth in a manner similar to the way in which savings availability restricts investment (and hence economic growth) in the Harrod-Domar growth models. The disaggregated model structure used here follows the approach used in the economic planning models literature described in (4).

In this model, the economy of an LDC is disaggregated into six sectors: grains, other agricultural goods, energy, nonagricultural export goods. Domestic investment goods are part of nonagricultural home goods, while imported investment goods constitute a seventh sector for which there is no domestic production. Supply functions, demand functions, and market equilibrium conditions (table 1) are then used to calculate net trade in each of these sectors for a given economic growth rate. The model then calculates the foreign exchange gap consistent with that economic growth rate (the "IFPRI gap" scenario). In that manner, the foreign exchange gaps for the IFPRI historical trend scenario or other scenarios may be calculated, and those gaps will include foreign exchange requirements for food, energy, investment, intermediate goods, and other imports. In the second set of scenarios, the economic growth rate is determined by a foreign exchange constraint (the "con-

Table 1—Equations of the model

Supply functions

$$ln(Y_i^t) = \gamma_i t \, ln(Y_i^0) \qquad i = r, g, a, e, x, n \qquad (1)$$

Demand functions for agricultural goods

$$C_i^t = C_i^0 (Y_r^t/Y_r^0)^{\sigma i} (N^0/N^t)^{\sigma i - 1} \qquad i = g, a \qquad (2)$$

Demand function for energy

$$C_e^t = C_e^0 (Y_r^t/Y_r^0)^{\sigma e} \qquad (3)$$

Demand function for luxury and intermediate imported goods

$$M_l^t = \omega Y_r^t \qquad (4)$$

Demand for capital goods (investment) and capital goods imports

$$I_t^t = K_t^{t+1} - K^t = k(Y^{t+1} - Y^t) \qquad (5)$$

$$M_k^t = \alpha I^t \qquad (6)$$

Demand constraint for agricultural exports

$$ln(M_a^t) \geq \varrho t \, ln(X_a^0) \qquad (7)$$

Population growth

$$ln(N^t) = \eta t \, ln(N^0) \qquad (8)$$

Market equilibrium conditions

$$M_i^t = C_i^t - Y_i^t \qquad i = g, a, e \qquad (9)$$

$$X_x^t = Y_x^t \qquad (10)$$

Foreign exchange constraint (first gap)

$$F^t + P_x^t X_x^t - \sum_i P_i^t M_i^t \geq 0 \qquad i = g, a, e, k, l \qquad (11)$$

Accounting identities

$$Y_r = \sum_i Y_i^t = \sum_i C_i^t + I_t - F_t \qquad i = g, a, e, x, n \qquad (12)$$

$$Y_r = \sum_i (Y_i^0/Y_i^t)\gamma_i \qquad i = g, a, e, x, n \qquad (13)$$

Savings constraint (second gap)

$$S^t = I^t \leq F^t + S_d^t \qquad (14)$$

Notation

Y_i^t = production (supply) of good i at time t

C_e^t = consumption (demand) for good i at time t

M_i^t = net imports of good i at time t

X_i^t = gross exports of good i at time t

N^t = propulation at time t

I^t = investment at time t

K^t = capital stock at time t

S^t = saving at time t

S_d^t = domestic saving at time t

F^t = net foreign capital inflows at time t

P_i^t = international (border) price of good i at time r

γ_i = production growth rate for good $i - (\dfrac{1}{\sigma_i^t} \dfrac{dy_i^t}{dt})$

σ_i = income elasticity of demand of good i

ω = marginal (average) propensity to import luxury and intermediate goods

k = incremental capital-output ratio

α = fraction of capital goods imported

ϱ = growth rate of gross agricultural goods exports

η = population growth rate

i = g for grains; a for other agricultural goods; e for energy; x for nonagricultural export goods; n for nonagricultural home goods; l for luxury and intermediate imported goods; k for investment goods; and r for all goods (GDP)

stant deficit scenario"). The projected growth rate is the maximum allowable rate, given that the foreign exchange cost of the calculated trade gaps cannot exceed foreign exchange availability (i.e., export earnings plus net capital inflows). If the foreign exchange constraint is relaxed, the economic growth rate may be exogenously set.

The notation of this model as well as the equations used are presented in table 1. Equation 1 presents the form of supply functions used for all sectors. Production growth rates for grains, other agricultural commodities, energy, and nonagricultural export goods (γ_g, γ_a, γ_e, and γ_x) are set exogenously at historical (10-year) trend rates for all scenarios. The overall economic growth rate, γ_r, is determined endogenously as indicated above, and all production

adjustment is assumed to occur in the nonagricultural home goods sector. Equation 13, an accounting identity relating the overall growth rate to sectoral growth rates, shows the relationship between γ_r and γ_n. The notation γ_i is the base year (1979) production for sector i and t is set at 11 years for all scenarios.

Demand functions for grains and other agricultural goods are presented in equation 2. Agricultural demand in this model is driven by both population and income growth, with population growth exogenously set according to equation 8. Energy demand and the demand for luxury and intermediate imports depend only on income as shown in equations 3 and 4. Agricultural and energy demand equations assume constant income elasticities of demand, while luxury and

intermediate imports assume a constant average propensity to spend (i.e., a constant fraction of demand is allocated to these imported goods). The demand for capital investment goods is determined according to standard Harrod-Domar capital accounting, assuming a fixed capital-output ratio for the entire economy, as in equation 5. Furthermore, imports of investment goods are assumed to be a constant fraction of investment demand (α), so that domestic investment goods production must equal $(1 - \alpha)$ times investment demand. Equation 14 states that total savings (foreign and domestic) must equal investment, so that investment demand cannot exceed net foreign capital inflows plus domestic savings. This equation is used to calculate minimum domestic savings (S_d) for each scenario, and it determines the second gap of the two-gap model—the savings constraint gap of the Harrod-Domar model.[3] Agricultural export demand is also assumed to grow no faster than historical rates, as is implied by equation 7.

Market equilibrium conditions define net imports for the grains, other agricultural, and energy sectors (equation 9). Export goods production and exports are assumed to be identical (equation 10). A foreign exchange constant (equation 11; used in the constant deficit scenario) requires that earnings from sector X plus net foreign capital inflows (F^t, aid and borrowing) must equal or exceed net imports of grain, other agricultural goods, energy, investment goods, and luxury and intermediate goods valued at international prices (P_i^t). The GNP accounting identity (equation 12), which requires that aggregate demand equal aggregate supply, is used to determine home goods consumption as a residual that exhausts funds available for expenditures.

When an exogenous economic growth rate is set (the IFPRI gap scenario), equation 11 is used to solve for F^t, the foreign exchange gap, which is the amount of foreign exchange the country must borrow or receive in aid (in addition to debt service require-

ments) to maintain the projected economic growth rate. This scenario was projected for 31 case study countries.

When constraint equation 11 is operative, a value of F^t is exogenously assumed and the overall economic growth rate of γ_r is the maximum allowed by this constraint. In the scenarios that follow, it was assumed that $F^t = F^o$ or that real foreign capital inflows remain constant. Where a country was a net lender of foreign capital, F^t was simply set equal to zero. In that case, trade balance is required, and so foreign capital outflows are assumed to fall to zero.

With the foreign exchange gap (F^t) defined by equation 11, the economic problem solved by this two-gap model may be formally stated. It is assumed that a country's objective is to maximize discounted aggregate consumption value, subject to foreign exchange availability, or:

$$\text{Maximize } \int_o^t C(\gamma_r, T)e^{-BT}dT \qquad (15)$$

$$\text{subject to: } F^t(\gamma_r) \geq \overline{F} \qquad (16)$$

where B is the discount rate and $\overline{F}$ is the exogenously set net foreign capital inflow at time t. Since business cycles are ignored, so that γ_r is assumed to prevail for all periods up to t, and since the model specification determines that aggregate consumption is a monotonically increasing function of the economic growth rate, γ_r^* is found by solving:

$$F^t(\gamma_r^*) - \overline{F} = 0 \qquad (17)$$

Equation 11 is used to determine net foreign capital inflows as a function of the economic growth rate ($F^t(\gamma_r^*)$). Hence, solving the following for γ_r^*:

$$\overline{F} = P_x^t X_x^t - \sum_i P_i^t M_i^t(\gamma_r^*) \qquad (18)$$
$$i = g, a, e, k, l$$

determines the optimal (maximum) economic growth rate.

For some countries, this maximum economic growth rate will exceed the exogenously set growth rate assumed in the prior scenario. This occurs when projected export performance yields a trade gap which

[3]The IFPRI gap scenario will be seen to approximate closely the predictions of a savings-constrained country as defined in a two-gap model or a Harrod-Domar growth model. This is because the minimum domestic savings calculated by equation 14 for the IFPRI gap scenarios, which assume an exogenously set economic growth rate, are very close to the fraction of GNP saved historically by most countries projected here. Hence, it would seem that the World Bank income growth projections could have been generated by a Harrod-Domar model similar to the model structure assumed here.

is either a foreign exchange surplus or a smaller deficit than was realized in the base year. In that case, it is unrealistic to assume that the more optimistic growth projection is feasible, since the required savings (the second gap of the two-gap model) will be limiting economic growth, not foreign exchange availability. Whenever this result occurs, only an IFPRI gap scenario will be projected, as it would also be the result of a true two-gap model in which savings is the constraining factor.[4] Those countries for which only an IFPRI gap scenario is projected and for which foreign exchange is not likely to be the binding factor limiting economic growth will be labeled savings-constrained cases.

Equations 11-14 may be used to calculate agricultural and nonagricultural production, demand, and trade patterns at γ^* — the maximum economic growth rate according to the two-gap model — as well as required investment and domestic saving, following the same procedure as used for the IFPRI gap scenario. This corresponds to the constant deficit scenario which will be subsequently projected for the 31 case study countries.[5]

The greatest deficiency of this approach and the assumed model structure is that substitution effects due to relative price shifts are not included. Hence, some potential adjustments to a country's foreign exchange problems are not captured by this model. Given the uncertainty over both the direction and magnitude of relative international price changes in the long run and the role of government intervention in driving wedges between domestic and international prices,[6] the basic projections of this model and the sensitivity analyses nevertheless reveal useful insights into the issues under investigation. The operative assumption throughout is that each country is a "small" country in international trade, hence

its actions do not affect international prices, which it takes as given information.

In order that a large number of countries could be examined, I used a relatively simple model requiring a minimum amount of data. I used other studies to obtain data, parameter estimates, and growth rate projections. Such an approach allows projection of agricultural trade flows that are the result of interactions with other sectors of a country's economy through determination of the demand for foreign exchange for 31 LDC's. The countries to be projected and reasons for their choice are also presented.

A base year of 1979 was used to generate projections to 1990 for the 31 case study countries (see appendix tables 1-31 for base year data for all countries as well as historical and projected growth rates). Much of the data was taken from other sources.[7]

Projected exogenous growth rates correspond to those of the major international organizations. The projected population growth rate used was the U.N. medium variant projection and the projected GNP growth rate was the World Bank forecast. Grain, other agriculture, energy, and nonagricultural export growth rate projections correspond to longrun (1970-79) historical trends. International prices were assumed to remain constant in real terms for the base projections. Other behavioral parameters, including the income elasticity of demand for energy, capital-output ratios, and marginal propensities to import luxury, intermediate, and capital goods were estimated from historical data obtained from the above sources.

Since the proper base year data, growth rate projections, and behavioral parameters are a matter of speculation, sensitivity analyses for some crucial assumptions were conducted. Most of those simply altered assumptions in some systematic manner. However, a scenario similar to the optimistic projec-

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[4]The binding factor limiting economic growth in a country is not observable, since equations 11 and 14 will always appear to be equalities. Projections using the above methodology reveal which constraint will bind future economic growth, however.

[5]The "IFPRI gap" and "constant deficit" scenario will be identical for countries for which savings, not foreign exchange availability, determines γ^*.

[6]Abbott, the World Bank, Jabara, and others have argued that LDC governments often insulate agricultural prices from international prices. In such cases, the assumption concerning substitution effects may not seriously bias these projections, even if world prices change.

[7]Population, population growth rates, GNP, GNP growth rates, the composition of GNP, total imports, total exports, the composition of the import bill and export earnings, and growth rates for energy and agriculture were taken from (22). Basic agricultural supply-demand balances and long-term agricultural growth rates came from (9, 10, 18). Energy data came from (19). The fraction of domestic agricultural production which was cereals production was derived from (20). Income elasticities of demand were taken from (12) for grains and (3) for other agricultural goods.

tions used by FAO (8) and based on the projected growth rates used in that report was also constructed.

Base Projections

The model yielded projections of economic performance and agricultural trade for 31 countries in 1990 (detailed results are presented in appendix tables 1-31). These results will be examined here for the two extreme cases of Sudan and South Korea. That discussion will be followed by projections of economic growth and agricultural trade for countries for each of two classes: those with foreign exchange constraints and those with savings constraints. The economic performance and agricultural trade projections for all 31 countries will be examined in that section.

Sudan illustrates the case of a country likely to face severe foreign exchange difficulties, and hence a country for which foreign exchange availability restricts both economic growth and imports of agricultural goods. South Korea illustrates the case of a country likely to realize adequate export earnings, so that economic growth is likely to be constrainted by the availability of domestic savings and investment, with agricultural imports unaffected by foreign exchange limitations.

Sudan

Sudan was already facing a foreign exchange crisis in 1979, when its import bill of $1.2 billion was more than twice its export earnings of $580 million. Sudan was forced to reschedule its international debt twice in recent years, yet continues to run a severe balance of trade deficit. If rapid economic growth occurs during the next decade, as forecast by the World Bank, and that is coupled with poor performance in the export sectors, as has been the case for the last decade, the need for increased foreign capital inflows will be enormous. Without increased borrowing and aid inflows, demand for imports must decline while the supply of exports must increase. For Sudan, since agricultural goods play a large role in the economy, agricultural trade will be severely altered.

In table 2, model results for the Sudan are presented. These include actual 1979 data; projec-

tions when the foreign exchange position does not restrict trade (the IFPRI gap scenario); and projections based on a two-gap model (the constant deficit scenario). Under the IPFRI gap scenario, with GNP per capita growing by 1.3 percent annually and export earnings declining at almost 5 percent per year, by 1990 Sudan will earn sufficient foreign exchange to pay for only 15.6 percent of its import bill. The rest, about $1.8 billion, must come from foreign aid or borrowing. Such an amount represents a tripling of Sudan's required real net foreign capital inflows and corresponds to a trade deficit growing by 39 percent per year. For this projection, Sudan's cereal imports will increase by 266 percent to over 1 million metric tons, and the foreign exchange cost will increase from 6 percent to 10 percent of Sudan's import bill.[8] The value of other agricultural exports will decline to about half of 1979 exports, due largely to increased domestic demand accompanying the rapid income growth.

Obviously, this projection is unrealizable, and adjustments in both the rate of growth and structure of the Sudanese economy are already evident. The constant deficit scenario projects one possible adjustment, which is largely the result of reduced income growth that diminishes demand for imports. In this scenario, real net foreign capital inflows remain at the 1979 level, which in itself represents a substantial level of international aid and borrowing. In order to achieve this, however, GNP per capita must fall at a rate of 1.56 percent per year. Due to the resulting demand reduction, the import bill is less than half of the IFPRI gap projection import bill. Cereal imports decline to less than 40 percent of the gap projection level, or about 400,000 metric tons, and net exports of other agricultural goods increase by 50 percent over gap projections but are still 17 percent below the 1979 export level at $320 million.

Sudan must substantially reduce its expectations, given the foreign exchange problems it faces. Estimates of actual 1979 and projected domestic savings requirements also indicate that economic growth in the Sudan has largely been based on international borrowing and not domestic saving. Hence, traditional Harrod-Domar type growth models, which ignore the importance of international capital markets

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[8]A metric ton (m.t. in tables) equals 2,204.62 pounds.

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Table 2—Sudan: Agricultural trade and projections and implied foreign exchange deficits

Item	Unit	1990 projections			Growth rates		
		1979	IFPRI gap[1]	Constant[2] deficit	Historical	IFPRI gap[1]	Constant[2] deficit
Population:					*Percent per year*		
GNP	*Millions*	17.90	25.54	25.54	2.60	3.23	3.23
GNP per capita	*Mil. dol.*	6,623.00	10,900.93	7,955.95	3.20	4.53	1.67
	Dollars	370.00	426.88	311.55	.60	1.30	-1.56
Cereals:							
Production	*1,000 m.t.*	2,676.00	3,484.50	3,484.50	2.40	2.40	2.40
Consumpion	*do.*	2,965.00	4,543.41	3,881.47	2.90	3.88	2.45
Net imports	*do.*	289.00	1,058.91	396.97	NC	NC	NC
Net imports	*Mil. dol.*	60.04	219.97	82.47	NC	NC	NC
Self-sufficiency ratio	*Percent*	90	77	90	NA	NA	NA
Other agricultural commodities:							
Production	*Mil. dol.*	1,862.39	2,535.66	2,186.10[3]	2.81	2.81	1.46[3]
Consumption	*do.*	1,478.40	2,331.15	1,869.95	3.02	4.14	2.14
Net exports	*do.*	383.99	204.51	316.15[3]	NA	NA	NA
Energy:							
Production	*do.*	3.69	16.65	16.65	13.70	13.70	13.70
Consumption	*do.*	137.67	137.67	137.67	-.90	0	0
Net imports	*do.*	133.98	121.02	121.02	NA	NA	NA
Industrial and other goods:							
Total production	*do.*	4,102.57	7,496.57	4,901.15	3.64	5.48	1.62
Investment goods	*do.*	495.22	1,153.87	309.90	NA	NA	NA
Import bill	*do.*	1,200.00	2,121.00	959.54	4.50	5.18	-2.03
Percent cereals	*Percent*	6.00	10.33	8.55	NA	NA	NA
Percent energy	*do.*	12.00	6.18	13.66	NA	NA	NA
Percent capital goods	*do.*	36.00	47.46	28.17	NA	NA	NA
Export earnings	*Mil. dol.*	581.00	340.48	340.48	-4.40	-4.86	-4.86
Net foreign capital inflows (Deficit)	*do.*	619.00	1,780.52[1]	619.06[2]	13.69	13.17	0
As percent of import bill	*Percent*	51.58	83.95	64.52	NA	NA	NA
As percent of GNP	*do.*	9.35	16.33	7.78	NA	NA	NA
Savings—investment balance:							
Total investment	*Mil. dol.*	927.22	2,160.43	580.24	NA	NA	NA
As percent of GNP	*Percent*	14.00	19.82	7.29	NA	NA	NA
Domestic savings	*Mil. dol.*	308.22	379.91	0	NA	NA	NA
As percent of GNP	*Percent*	4.65	3.49	0	NA	NA	NA

NA = Not applicable.

[1]The "IFPRI gap" scenario assumes unlimited availability of net foreign capital inflows.

[2]The "constant deficit" scenario assumes net foreign capital inflows in 1990 cannot exceed the 1979 level of availability, and that income growth is reduced to meet this requirement.

[3]The reduction in agricultural production growth and net exports is due to the agricultural export demand growth constraint (equation 7). In this case, the historical rate of growth of agricultural exports has been negative.

for Sudan and which do not reflect constraints on growth due to foreign exchange shortages, are likely to lead to exaggerated forecasts of Sudanese import demand. Furthermore, the substantial income reductions per capita implied by the constant deficit forecasts lead to reductions in demand reflected in reduced imports of cereals and increased exports of other agricultural products. While these demand reductions are small relative to total international cereals and other agricultural trade, if many LDC's face similar problems, the rate of growth of world trade could be seriously affected.

South Korea

About half of the countries considered in this study are not projected to experience foreign exchange difficulties like those of Sudan. South Korea is representative of countries whose export performance has been so strong over the last decade that a projection based on historical trends yields very different results. In the gap projection for South Korea and similar countries, sufficient foreign exchange earnings are available to pay the resulting import bill.

Since the IFPRI gap projection for South Korea yields a substantial balance of trade surplus, foreign exchange availability will not act as a constraint on economic growth (table 3). Therefore, the constant deficit scenario is identical to the gap scenario. Furthermore, investment as a percentage of GNP declines from 35 percent to 28.9 percent, which is close to the available domestic savings of 25.5 percent, since the projected economic growth rate is lower than the historical rate. Hence, the World Bank income growth projection would be closely approximated by a savings-constrained Harrod-Domar growth model and seems to be a reasonable forecast for South Korea.

The export earnings growth projection is unreasonably high, however, yielding export levels equal to twice the GNP in 1990. The reason is that South Korea has experienced rapid expansion of its non-agricultural export sector over the last decade, starting from a small base. Projecting continued exponential growth from a larger base produces those extreme results. If the export sector grew at a substantially reduced rate of 12 percent per year, the share of exports in GNP would increase from 27 per-

cent in 1979 to 41 percent in 1980. Such an increase corresponds to a much smaller adjustment than that of the last decade. With the reduced growth in exports, the remainder of the gap projection is valid since sufficient foreign exchange to generate a trade surplus is earned by South Korea's export industries. The rate of growth of the export sector must fall below 11 percent before foreign exchange availability constrains economic growth.

The performance of South Korea's cereal production has been modest but respectable, growing at an annual rate of 2.2 percent per year, while the growth for other agricultural commodities' production has been extremely impressive—6.2 percent per year. As a result, South Korea has been a net exporter of other agricultural commodities (excluding cereal) and if the past production performance continues, South Korea will experience a more than fivefold increase in exports of agricultural commodities. That will occur despite a rapid (4.1 percent per year) increase in consumption of agricultural commodities. An increase in cereal imports is projected, although at a modest 1.8 percent per year. South Korea's self-sufficiency in cereals remains roughly constant at 68 percent, and the percentage of South Korea's import bill allocated to cereals is projected to decline from 3.7 percent of foreign exchange expenditures to 1.8 percent. Furthermore, at a 1979 import volume of 4.8 million metric tons, which is projected to increase to 5.9 million metric tons, South Korea is a significant cereal importer and will likely remain so, although with relatively modest growth in imports.[9]

South Korea's performance is typical of countries for which export performance has been strong and the ability to import agricultural commodities in the long run, principally cereals, is unlikely to be altered by the foreign exchange difficulties currently afflicting many LDC's. It provides a sharp contrast to Sudan, where foreign exchange availability is likely to be a crucial determinant of agricultural trade.

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[9]Substantially increased meat consumption in South Korea could accelerate growth in cereal imports, but such an acceleration is not apparent in past longrun trends.

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Table 3—South Korea: Agricultural trade and projections and implied foreign exchange deficits

Item	Unit	1990 projections			Growth rate		
		1979	IFPRI gap[1]	Constant[2] deficit	Historical	IFPRI gap[1]	Constant[2] deficit
					Percent per year		
Population:	*Millions*	37.80	46.69	46.69	1.90	1.92	1.92
GNP	*Mil. dol.*	55,944.00	126,539.08	126,539.08	9.00	7.42	7.42
GNP per capita	*Dollars*	1,480.00	2,710.25	2,710.25	7.10	5.50	5.50
Cereals:							
Production	*1,000 m.t.*	9,717.00	12,377.46	12,377.46	2.20	2.20	2.20
Consumption	*do.*	14,528.00	18,273.06	18,273.06	2.11	2.08	2.08
Net imports	*do.*	4,811.00	5,895.60	5,895.60	NA	NA	NA
Net imports	*Mil. dol.*	751.96	921.48	921.48	NA	NA	NA
Self-sufficiency ratio	*Percent*	67	68	68	NA	NA	NA
Other agricultural commodities:							
Production	*Mil. dol.*	7,295.10	14,409.00	14,409.00	6.19	6.19	6.19
Consumption	*do.*	6,664.76	10,485.92	10,485.92	4.74	4.12	4.12
Net exports	*do.*	630.34	3,923.08	3,923.08	NA	NA	NA
Energy:							
Production	*do.*	1,061.06	1,684.17	1,684.17	4.20	4.20	4.20
Consumption	*do.*	3,956.10	11,124.09	11,124.09	11.40	9.40	9.40
Net imports	*do.*	2,895.04	9,439.92	9,439.92	NA	NA	NA
Industrial and other goods:							
Total production	*do.*	43,694.14	105,486.14	105,486.14	10.23	8.01	8.01
Investment goods	*do.*	12,868.53	23,997.25	23,997.25	NA	NA	NA
Import bill:	*do.*	20,339.00	52,393.33	52,393.33	13.50	8.60	8.60
Percent cereals	*Percent*	3.69	1.76	1.76	NA	NA	NA
Percent energy	*do.*	16.00	18.70	18.70	NA	NA	NA
Percent capital goods	*do.*	33.00	23.89	23.89	NA	NA	NA
Export earnings	*Mil. dol.*	15,055.00	272.771.20	272,771.00	20.00	26.34	26.34
Net foreign capital inflows: (Deficit)	*do.*	5,284.00	−220,346.69[1,2]	220,346.69[1,2]	−1.76	−136.27	−136.27
As percent of import bill	*Percent*	25.98	−420.62[2]	−420.62[2]	NA	NA	NA
As percent of GNP	*do.*	9.45	−174.16[2]	−174.16[2]	NA	NA	NA
Savings—investment balance:							
Total investment	*Mil. dol.*	19,580.40	36,513.55	36,513.55	NA	NA	NA
As percent of GNP	*Percent*	35.00	28.86	28.86	NA	NA	NA
Domestic savings	*Mil. dol.*	14,296.00	256,891.42[2]	256,891.43[2]	NA	NA	NA
As percent of GNP	*Percent*	25.55	203.01[2]	203.01[2]	NA	NA	NA

NA = Not applicable.

[1]The "IFPRI gap" scenario and the "constant deficit" scenario are as defined for table 2. Since net foreign capital inflows in the "IFPRI gap" scenario are below the 1979 level, the foreign exchange constraint is met in that projection, and so the two projections scenarios are identical.

[2]Since this projection yields a substantial net foreign capital outflow, due to the large balance of trade surplus several projected variables are meaningless.

Implications for Economic Performance and Agricultural Trade

The 31 countries examined in this paper accounted for 73.4 percent of LDC cereal imports in 1979 and include all developing countries whose cereal imports exceeded 0.4 percent of total global cereal imports. In addition, several countries accounting for a smaller fraction of cereal imports but experiencing severe food and foreign exchange gaps were included. These countries illustrate the two extreme results obtained—cases for which economic growth (and hence agricultural trade) are not limited by foreign exchange availability and cases for which substantially increased foreign aid or borrowing will be necessary to meet food needs and foreign exchange requirements to sustain economic growth. These results are used below to assess the likely growth in agricultural trade by LDC's over the next decade.

All the countries listed in table 4 experienced and are projected to continue to experience rapid growth in their balance of trade deficit. Two Sahelian countries, Upper Volta and Niger, have enormous growth rates projected in their deficits—90.6 percent and 56.2 percent per year, respectively. Only 2 of these 17 countries are projected to realize a growth rate in their balance of trade deficit of less than 5 percent per year. Economic growth forecasts for the constant deficit scenarios for these countries are equally pessimistic. Ten of the 17 countries are projected to experience negative per capita economic growth rates, and the largest positive economic growth rate is merely 1.17 percent per year. In each of these countries except Niger, investment as a percentage of gross domestic production declines in the constant deficit scenario, suggesting that available savings (at historical levels) will not be the constraining factor limiting economic growth.[10]

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[10]Niger's historical economic growth rate was −1.3 percent per year, while the constant deficit scenario projects a modest 0.5 percent per year economic growth rate. Historical data suggest an increase in investment will be required to accomplish this improvement in economic performance.

Table 4—Economic performance of developing countries with foreign exchange constraints

Country	Economic growth rate			Net foreign capital inflows, growth rate		Investment	
	Historical	Gap forecast[1]	Constant deficit[2]	Historical	Gap forecast	Historical	Constant deficit
	-----Percent/capita/year-----			-----Percent/year-----		-----Percent of GNP-----	
Algeria	2.40	3.00	1.17	13.62	6.94	45.2	38.6
Bangladesh	−.10	.50	−1.17	5.49	14.61	14.0	6.3
Chad	−1.40	.50	−4.26	3.21	23.26	—	—
Colombia	3.00	2.00	1.01	3.67	4.28	24.0	18.1
Egypt	3.40	1.10	.79	25.25	6.99	31.0	17.1
India	1.40	1.10	.59	−1.63	7.98	24.0	20.6
Iran	7.90	5.80	−9.77	11.80	14.10	33.0	—
Morocco	2.60	1.40	−1.32	15.00	10.18	23.0	7.4
Niger	−1.30	.50	−.50	2.53	56.20	28.0	44.8
Nigeria	3.70	6.30	1.13	3.54	16.59	31.0	20.8
Pakistan	2.90	2.60	−.62	9.19	16.44	18.0	7.8
Portugal	5.50	5.50	.53	6.09	16.47	21.0	5.9
Senegal	−.20	.50	−1.35	8.88	12.08	21.0	10.2
Sri Lanka	2.20	1.60	.84	2.11	1.97	26.0	18.2
Sudan	.60	1.30	−1.56	13.69	18.17	14.0	7.3
Upper Volta	.30	.50	−6.60	13.21	90.58	24.0	—
Venezuela	2.70	3.00	−.63	18.45	10.24	34.0	12.0

— = Not applicable (model showed negative growth rates).
[1]Forecasts are from 1979 to 1990 based on the real GNP of the countries. The gap forecast simply projects the consequences of longrun trends.
[2]The constant deficit forecast projects economic activity from 1979 to 1990k holding the trade deficit growth rate equal to zero.

For 14 countries, however, economic growth appears not to be limited by foreign exchange availability (table 5). Each of these countries is projected to realize a foreign exchange surplus, and so no constant deficit scenario is projected. The economic growth projections for these countries are at or somewhat below growth rates for the past decade, so that investment as a percentage of gross domestic product is comparable to historical levels. Hence, the IFPRI gap projections, based on World Bank economic growth forecasts, correspond closely to the results one would obtain with a Harrod-Domar growth model or with a two-gap model in which the foreign exchange constraint is not binding. Many, though not all, of the countries in this category are either members of OPEC (Indonesia, Iraq, Mexico, and Saudi Arabia, although several other OPEC members are projected to be constrained by foreign exchange deficits) or are included among the newly industrialized countries (Brazil, Hong Kong, Korea, Philippines, and Singapore). The countries whose foreign exchange availability is not binding have generally experienced excellent performance in their export sectors. Export sector growth has typically led their overall economic growth.

These savings-constrained countries accounted for two-thirds of the cereal imports of the 31 case study countries and about half of total LDC cereal imports in 1979. And these countries are projected to continue to increase their cereal imports through 1990 (table 6). The most significant increase projected is for China, whose cereal imports are projected to increase from 13.7 million metric tons in 1979 to 74.5 million metric tons in 1990. While this growth is consistent with recent trends, it must be considered suspect given the uncertainties involved in forecasting the extent to which China will enter the world grain market. Two other countries (Brazil and Mexico), projected to increase their cereal imports substantially, are also among the countries currently experiencing severe foreign debt difficulties. These results suggest that problems in those countries are due to departures from longrun trends since 1979, probably due in part to the effects of the worldwide recession and the overcommitments on loans based on prior economic success. If these shortrun problems are reversed, these countries can be expected to re-emerge as important markets for cereal exporters in the long run. If these three countries, which accounted for over one-fourth of LDC cereal imports in 1979,

Table 5—Economic performance of developing countries with savings constraints

Country	Economic growth rate		Net foreign capital inflows, growth rate		Investment	
	Historical	Gap forecast[1]	Historical	Gap forecast	Historical	Gap forecast[2]
	--------Percent/capita/year--------		-----------Percent/year-----------		--------Percent of GNP--------	
Afghanistan	0.50	0.50	3.67	−19.28	14.0	14.5
Brazil	4.80	3.00	.28	−6.55	23.0	19.0
Chile	1.20	1.30	−10.03	−7.07	16.0	17.1
China	5.80	4.90	3.93	−.02	31.0	30.0
Hong Kong	7.00	5.00	1.20	−4.89	28.0	18.7
Indonesia	4.10	3.10	−9.57	17.40	23.0	20.1
Iraq	4.60	3.60	3.48	−12.68	33.0	29.2
Mali	1.10	.90	−1.11	−3.38	15.0	14.5
Mexico	2.70	2.50	−4.15	−19.47	28.0	29.5
Peru	1.70	1.50	4.76	−18.81	14.0	13.9
Philippines	2.60	1.80	−0.88	−7.42	29.0	27.3
Saudi Arabia	6.30	7.30	9.31	−2.68	33.0	31.7
Singapore	7.40	5.70	−1.09	−16.88	39.0	31.5
South Korea	7.10	5.50	−1.76	−13.63	35.0	28.9

[1]Forecasts are from 1979 to 1990 based on the real GNP of the countries. The gap forecast simply projects the consequence of longrun trends. There were no constant deficit forecasts for these countries since the gap forecasts projected either a trade surplus or a declining deficit.

[2]Declining net foreign capital inflows indicate that trade deficits (surpluses) will diminish (increase). Hence, foreign exchange constraints are unlikely to restrict economic growth.

Table 6—Agricultural trade projections for developing countries with savings constraints

Country	Net cereal imports		Net exports of other agricultural goods	
	1979	1990 Gap forecast[1]	1979	1990 Gap forecast[1]
	--Million metric tons--		-----Bil. dollars-----	
Afghanistan	0.115	1.110	0.274	0.466
Brazil	5.976	14.512	7.530	12.385
Chile	1.113	1.644	.365	.839
China	13.709	74.480	4.743	6.297
Hong Kong	.843	1.233	−2.070	−3.224
Indonesia	2.799	7.020	3.460	3.391
Iraq	2.393	4.370	−.226	−1.998
Mali	.035	.123	.152	.324
Mexico	3.292	10.291	1.689	.538
Peru	1.137	2.374	1.368	.838
Philippines	.608	.788	1.954	3.257
Saudi Arabia	2.043	3.163	−2.051	−3.377
Singapore	.807	.971	−.107	−.231
South Korea	4.811	5.896	.630	3.923
Total	39.051	127.975	17.711	23.446

[1]See table 4, footnote 1.

are eliminated from the totals, net cereal exports to the remaining 14 savings-constrained LDC's are projected to grow by 11.4 million metric tons (4.7 percent) per year. With only China excluded, growth in cereal imports for these countries is projected to be 6.8 percent per year. This projection sets the growth rate for China's cereal imports at 15.4 percent per year.

Other agricultural trade for the savings-constrained countries is projected to increase for most countries, but since many of these countries are significant agricultural importers, a decline in net exports of other agricultural goods is projected. Substantial increases in agricultural imports are projected for Hong Kong, Iraq, Saudi Arabia, and Singapore. On the other hand, substantial increases in agricultural exports are projected for Brazil, China, Korea, and the Philippines. Substantial declines in net agricultural exports are projected for Mexico and Peru. The net effect of these changes on global agricultural trade should be relatively small, although it may be significant for individual commodities.

The foreign exchange-constrained countries were typically minor exporters of "other" agricultural commodities (other than cereals) in 1979 (table 7).

Four countries were importers of "other" agricultural commodities (Algeria, Iran, Niger, and Venezuela), while Colombia accounted for 49 percent of net exports of the remaining 13 countries. In the gap scenario for these countries, growth in consumption of "other" agricultural commodities exceeds growth in production, leading to a situation where these 17 countries are substantial net importers of agricultural goods. Nigeria, Morocco, Pakistan, Portugal, and Upper Volta are all projected to shift from being net exporters to net importers. In the constant deficit scenarios, the reduced economic growth substantially reduces these net imports from $7.4 billion to $1.6 billion. All countries, except Iran, that were importers in the gap scenario continue to import in the constant deficit projection, but at substantially reduced levels. In both scenarios, Colombia continues to export substantial amounts of "other" agricultural goods.

Net cereal imports for these countries increase dramatically in the gap forecast by 51.4 million metric tons—an annual growth rate of 10.9 percent. This projection is reduced in the constant deficit scenario by 15 million metric tons—an annual growth rate of 8.8 percent. Hence, the foreign exchange constraint will have a substantial reducing effect on net cereal imports of these countries. Much of this increase in imports is due to a change whereby India moves from a position as a net cereal exporter in 1979 to a large importer—26.6 million metric tons in the gap forecast and 22 million metric tons in the constant deficit forecast. These trends are very similar to, although somewhat larger than, the projections of IFPRI; since they are the result of a projection of trends in production and income growth, India's recent position as a grains exporter must have come as a result (in part) of a substantial effort to curtail growth in the demand for cereals. That recent history suggests that import projections for India are likely to be high, and since India's net imports even at 26 million metric tons are only 20 percent of projected cereal consumption in India, it should be expected that some reduction in demand below the projected level is both feasible and likely. Nigeria is another country for which the projected cereals gap becomes large, at 11.7 million metric tons, but whose imports decline substantially, by 5.3 million metric tons, in the foreign exchange-constrained scenario. If India and Nigeria are excluded from the foreign exchange-constrained cases, the remaining countries account for

Country	Net cereal Imports			Net exports of agricultural goods		
	1979	1990 Gap forecast[1]	1990 Constant deficit[2]	1979	1990 Gap forecast	1990 Constant deficit
	----------Million metric tons----------			----------Billion dollars----------		
Algeria	2.630	5.492	5.157	−0.762	−1.745	−1.542
Bangladesh	1.193	4.193	1.708	.093	.107	.175
Chad	.020	.269	.020	.098	.068	.068
Colombia	.806	.686	.869	2.906	4.109	4.109
Egypt	5.305	8.709	8.614	.461	.245	.245
India	.752	26.613	22.001	.415	.910	1.545
Iran	2.000	1.391	4.071	.195	.349	.061
Morocco	.028	.711	.761	.028	.276	.254
Niger	.028	.711	.761	.028	.276	.254
Nigeria	1.433	11.716	6.394	.134	−7.074	−4.546
Pakistan	1.220	3.077	.791	.204	−1.183	−.691
Portugal	3.173	5.103	4.371	.288	−.811	−.425
Senegal	.388	.511	.443	.247	.366	.366
Sri Lanka	1.003	1.687	1.538	.467	.458	.458
Sudan	.289	1.059	.397	.383	.205	.316
Upper Volta	.056	.302	−.021	.043	.446	−.135
Venezuela	1.621	.536	.157	−.736	−1.292	−.858
Total	22.045	73.412	58.383	4.226	−7.372	−1.555

[1]See table 3, footnote 1.
[2]See table 3, footnote 2.

only 15 million metric tons of the increase in LDC cereal imports in the gap forecast and 8.6 million metric tons of the increase in the constant deficit forecast. Growth rates for cereal imports for these 15 countries are 4.57 percent per year in the gap forecast and 3.1 percent in the constant deficit forecast. Hence, for these countries, foreign exchange constraints on cereal imports are likely to be a serious limiting factor. Although many of these countries are not a quantitatively important part of global cereal trade, their inability to import grain is likely to cause serious local problems.

Combining the gap forecasts of cereal imports for the savings-constrained countries with the gap forecasts for the foreign exchange-constrained countries produces estimated growth rates for LDC cereal imports of 10.8 percent (table 8.) When the constant deficit forecasts for the foreign exchange-constrained countries replace the gap forecasts, LDC cereal import growth is projected to be 10.1 percent per year. The effect of foreign exchange limitations on this overall growth, therefore, is minimal, due to the importance of the countries not facing foreign exchange limitations on cereal imports (the savings-constrained

case). When growth in cereal imports for China is removed from this sample, however, the estimates are reduced to 7.5 and 6.6 percent per year, respectively, and when India is assumed to import at 1979 levels, they become 5.9 and 4.7 percent, respectively. With Brazilian and Mexican growth eliminated as well, these become 4.7 and 3.3 percent. Hence, these four countries plus Nigeria emerge as the most important factors in LDC cereal trade, and foreign exchange earnings are likely to have a serious impact on the growth of total cereal imports by other LDC's. If growth in cereal trade is to approach the 11.4-percent-per-year rate experienced in the 1970's, each of these major traders must import substantial quantities of grain; these results suggest that is unlikely. Only the gap forecast for all countries approached this growth rate.

Sensitivity Analysis on LDC Agricultural Trade

Since a number of strong assumptions were used to produce the projections discussed above, several al-

ternate scenarios were projected to determine the sensitivity of some key assumptions. The alternate scenarios included one approximating the assumptions of the FAO AT2000 study (8), and others in which (1) international grain prices were increased by 20 percent, (2) international energy prices were increased by 35 percent, and (3) the rate of growth of industrial export earnings was reduced by 50 percent. The model assumes no structural adjustments to relative price shifts (substitution effects). Hence, the effect of each of these alternatives assumptions, except for the AT2000 scenario, was simply to alter the foreign exchange position resulting from the trends in production and income growth. Only international prices in the foreign exchange constraint (equation 11) are altered in all but the FAO scenario. For the constant deficit projections, adjustments in income growth result from the effects of these changes in the foreign exchange position. The FAO scenario, on the other hand, incorporates more optimistic forecasts of LDC growth rates for agricultural production, cereal production, and agricultural export volumes. Tables 9-12 present the agricultural trade projections for these sensitivity analysis scenarios, using the constant deficit model where the foreign exchange constraint is binding. Economic performance statistics are reported in appendix tables 32-35 for these simulations.

In the scenario in which grain prices were increased by 20 percent, the resulting additional foreign exchange cost caused foreign exchange to become limiting for only one savings-constrained country, China. In that case, the decline in net cereal imports amounted to only 0.02 percent of the base projection, so there is virtually no change in imports for the savings-constrained countries, as expected. For the foreign exchange constrained countries the increased international grain prices resulted in somewhat reduced import demand for cereals due to a reduction in income growth. Given the relatively low assumed income elasticities of demand for cereals, this reduction amounted to 3.1 percent in net cereal imports for that group of countries. Hence, if we ignore substitution effects and the potential structural adjustments, these results are not sensitive to assumptions concerning international grain price levels.

The changes due to higher grain prices for net exports of other agricultural products are similarly minor. Again, only China's projection, among the savings-constrained countries, is affected. For the foreign exchange-constrained countries, there were several importers and exporters, and yet the sum of net exports was small. A small increase in net exports of $225 million was a relatively large fraction (14.5 percent) of the total for the base projection (table 11). Nevertheless, given the low income elasticities of demand for agricultural goods, the adjustments in net exports for each country relative to net export levels were very small, the largest being 9 percent for India.

Changes in energy prices yielded even smaller net effects on total agricultural trade, since some of the important traders are net energy importers while others are net energy exporters. Virtually no changes

Table 8—Summary projections of agricultural trade

Scenario[1]	Net grain imports		Net exports of other agricultural goods	
	Volume	Growth rate[2]	Volume	Growth rate[2]
	Mil. m.t.	Percent/ year	Bil. dol.	Percent/ year
1979[3]	61.1	NA	21.9	NA
1990 base projections:				
IFPRI gap	201.4	10.8	16.1	−2.8
Constant deficit	186.4	10.1	21.9	0
Constant deficit with no growth from 1979 assumed for:[4]				
China	125.6	6.6	20.4	.6
China and India	102.9	4.7	19.3	−1.1
China, India, Brazil, and Mexico	87.4	3.3	15.6	−3.1
China, India, Brazil, Mexico, and Nigeria	82.4	2.7	20.2	−.7
Sensitivity analysis for 1990:				
Grain price increased by 20%	184.5	10.0	22.5	.2
Energy prices increased by 35%	186.8	10.2	22.6	.2
Industrial export earnings growth rate reduced by 50%	182.3	9.9	23.5	.6
FAO assumptions (8)	152.9	8.3	42.8	6.1

NA = Not applicable.
[1]All scenarios are as previously defined for tables 4-7.
[2]Growth rate from 1979 to 1990 generated by projection.
[3]Actual 1979 level presented for comparison purposes.
[4]In order to assess the importance of these key countries, projections comparable with the "constant deficit" scenario, but with agricultural trade at 1979 levels for the indicated countries are provided. The contribution of these countries to agricultural trade growth may be assesed using these alternative scenarios.

Table 9—Sensitivity analysis on agricultural trade projections for LDC's: Net cereal imports for foreign exchange-constrained countries

Country	Net cereal imports for 1990				
	Base (constant deficit)	Grain prices increased by 20%	Energy prices increased by 35%	Industrial export earnings growth rate reduced 50%	FAO assumptions (8)
	Million metric tons				
Algeria	5.157	5.145	5.375	5.137	3.820
Bangladesh	1.708	1.567	1.658	1.446	−.278
Chad	.020	.065	.069	.068	.070[1]
Colombia	.869	−.865	−.905	−.892	.936
Egypt	8.614	8.597	8.659	8.624	6.913
India	22.001	20.968	22.440	19.900	4.777
Iran	4.071	4.033	4.352	4.071	2.792
Morocco	4.032	4.023	4.021	4.003	1.556
Niger	−.761	−.758	−.771	−.800	−.323
Nigeria	6.394	6.302	7.278	6.048	2.648
Pakistan	.791	.773	−.712	.717	2.925
Portugal	4.371	4.351	4.344	4.354	4.371[1]
Senegal	.443	.440	.435	.440	.288
Sri Lanka	1.538	1.513	1.496	1.427	1.362
Sudan	.397	.385	.365	.394	.756
Upper Volta	−.021	−.020	−.022	−.022	−.255
Venezuela	.157	.156	.257	.157	1.882
Total	58.383	56.675	58.339	55.072	34.182[1]

[1]To facilitate comparison of totals, the base (constant deficit) projection was used for Chad and Portugal in computing total net cereal imports for the FAO scenario. No FAO scenario was attempted for those two countries.

Table 10—Sensitivity analysis on agricultural trade projections for LDC's: Net cereal imports for savings-constrained countries

Country	Net cereal imports for 1990				
	Base (gap forecast)	Grain prices increased by 20%	Energy prices increased by 35%	Industrial export earnings growth rate reduced 50%	FAO assumptions (8)
	Million metric tons				
Afghanistan	1.110	1.110	1.110	1.008	0.568
Brazil	14.512	14.512	14.511	14.231	5.401
Chile	1.645	1.645	1.645	1.645	.772
China	74.480	74.317	74.480	43.932	74.480[1]
Hong Kong	1.233	1.233	1.233	1.146	1.233[1]
Indonesia	7.020	7.020	7.020	7.020	12.391
Iraq	4.370	4.370	4.820	4.370	4.772
Mali	.123	.123	.123	.123	−.132
Mexico	10.291	10.291	10.291	10.291	5.233
Peru	2.374	2.374	2.374	2.374	1.844
Philippines	.788	.788	.788	1.054	2.948
Saudi Arabia	3.163	3.163	3.163	3.163	3.043
Singapore	.971	.971	.971	.966	.971[1]
South Korea	5.896	5.896	5.896	5.896	4.731
Total	127.975	127.814	128.426	127.220	118.755[1]

[1]To facilitate comparison of totals, the base (gap forecast) projection was used for China, Hong Kong, and Singapore in computing total net cereal imports for the FAO scenario. No FAO scenario was attempted for those three countries.

Table 11—Sensitivity analysis on agricultural trade projections for LDC's: Other agricultural goods exports of foreign exchange-constrained countries

Country	Net cereal imports for 1990				
	Base (constant deficit)	Grain prices increased by 20%	Energy prices increased by 35%	Industrial export earnings growth rate reduced 50%	FAO assumptions (8)
	Billion dollars				
Algeria	−1.542	−1.535	−1.674	1.530	−1.496
Bangladesh	.175	.175	.175	.175	.150
Chad	.068	.068	.068	.068	.068[1]
Colombia	4.109	4.109	4.109	4.109	4.858
Egypt	.245	.245	.245	.245	1.633
India	1.545	1.689	1.485	1.386	4.926
Iran	.061	.061	.061	.061	2.228
Morocco	−.447	−.431	−.427	−.396	.154
Niger	.254	−.256	−.250	−.238	−.009
Nigeria	−4.546	−4.500	−4.987	−4.372	−.358
Pakistan	.691	−.687	.890	−.676	.597
Portugal	.425	−.414	−.410	−.416	.416[1]
Senegal	.366	.366	.366	.366	.383
Sri Lanka	.458	.458	.458	.458	.740
Sudan	.316	.316	.316	.316	.900
Upper Volta	−.135	−.136	.135	−.135	.111
Venezuela	.858	−.858	−.971	−.858	−.504
Total	−1.555	−1.330	−.681	−1.437	14.006[1]

[1]To facilitate comparison of totals, the base (constant deficit) projection was used for Chad and Portugal in computing total net other agricultural goods exports for the scenario. No FAO scenario was attempted for those two countries.

Table 12—Sensitivity analysis on agricultural trade projections for LDC's: Other agricultural goods exports of savings-constrained countries

Country	Net cereal imports for 1990				
	Base (gap forecast)	Grain prices increased by 20%	Energy prices increased by 35%	Industrial export earnings growth rate reduced 50%	FAO assumptions (8)
	Billion dollars				
Afghanistan	0.446	0.466	0.466	0.466	0.435
Brazil	12.385	12.385	12.385	12.385	12.253
Chile	.839	.840	.840	.840	.776
China	6.297	6.674	6.297	7.553	6.297[1]
Hong Kong	−3.224	−3.224	−3.224	−2.997	3.224[1]
Indonesia	3.391	3.391	3.391	3.391	5.253
Iraq	−1.998	−1.998	−2.166	−1.998	−.178
Mali	.324	.324	.324	.324	.194
Mexico	.538	.538	.538	.538	2.963
Peru	.838	.838	.838	.838	2.125
Philippines	3.257	3.256	3.256	3.256	2.895
Saudi Arabia	−3.377	−3.377	−3.377	−3.377	−3.201
Singapore	−.213	−.231	−.212	−.195	.213[1]
South Korea	3.923	3.923	3.923	3.923	2.380
Total	23.446	23.823	23.279	24.947	28.785[1]

[1]To facilitate comparison of totals, the base (gap forecast) projection was used for China, Hong Kong, and Singapore in computing total net other agricultural goods exports for the FAO scenario. No FAO scenario was attempted for those three countries.

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occurred since the energy exporters increased imports of cereals and other agricultural goods slightly and energy importers reduced their agricultural imports slightly. While individual foreign exchange-constrained countries may alter import levels by 10-20 percent, total cereal imports increased, but by only 0.4 million metric tons. Higher energy prices will therefore have some significant redistributive effects among LDC's but will not substantially alter aggregate trade projections. Symmetrical results would be projected for reduced energy and grain prices.

In order to examine the consequences of international foreign exchange earnings potential on agricultural trade projections and given the insensitivity of this model to price changes, a 50-percent reduction in the growth rate in industrial export earnings was assumed in the next sensitivity analysis scenarios. Even with a reduction of this magnitude, only Afghanistan, Brazil, China, Hong Kong, and Singapore, among the original savings-constrained countries, experienced a decline in their economic growth rate. In those countries, the foreign exchange constraint became a binding constraint when present levels of export earnings were reduced by about 50 percent. When that reduction was coupled with the low assumed income elasticities of demand for agricultural goods, net cereal imports declined by only 0.6 percent while net exports of other agricultural goods increased by only 6.4 percent.

The foreign exchange-constrained countries did not fare as well in this scenario, however. But for those countries, the industrial export earnings have been quite low, and in several cases negative. Therefore, this reduction in export earnings growth had only a small effect on agricultural trade. The comparison of the constant deficit and gap scenarios already demonstrated that a significant reduction in export earnings for the foreign exchange-constrained countries can significantly reduce agricultural imports for those countries.

Exporting by the savings-constrained countries, which have become important participants in international agricultural trade, has been so successful that only extreme reductions in their foreign exchange positions are likely to affect agricultural trade significantly. Such extreme reductions appear to have occurred recently for two of these countries, Brazil and Mexico.

Probably the most interesting sensitivity analysis scenario is the set of FAO projections of agricultural production growth (8). As mentioned earlier, this FAO study assumed very optimistic growth rates for cereals and other agricultural goods, which in many cases were substantially greater than historical long-run trends. As would be expected, agricultural imports were substantially decreased for most countries. India's projected cereal imports, for example, declined by 78 percent from the base constant deficit projections, to only 4.8 million metric tons. While this is the extreme example, large reductions in cereal imports were also found for Algeria (26 percent), Bangladesh (116 percent—changing from an importer to an exporter), Iran (31 percent), Nigeria (59 percent), Morocco (61 percent), Brazil (63 percent), and Afghanistan (49 percent). Total cereal imports for the 31 countries fell from 112 million metric tons in the base projection (excluding China, for whom no FAO scenario was attempted) to 78 million metric tons, an overall reduction of 30 percent.

For exporters of other agricultural goods, FAO's projected increase in net exports over the base case was a modest $5.3 billion, while the foreign exchange-constrained countries shifted from a net import position of $1.56 billion to a net export position of $14 billion due to the optimistic assumptions about agricultural production growth. Major increases in net exports of other agricultural goods were projected for Egypt, India, Iran, Nigeria, Pakistan, and Sudan, largely for the same reasons. In several instances, a country switched from a net import position to a net export position.

In evaluating these projections, one must keep clearly in mind the very optimistic nature of the assumptions, particularly for agricultural sector performance. This scenario does demonstrate, however, that the importance of food and foreign exchange gaps, particularly in foreign exchange-constrained LDC's, is crucially dependent on the performance of the agricultural sector. Hence, technological progress in excess of the rate realized over the last decade, or less distorted agricultural policies leading to more rapid growth in agricultural production, may have a significant impact on the growth of agricultural trade with LDC's as well as on economic growth in LDC's. Furthermore, FAO has provided an alternative set of assumptions for four of the countries that have emerged as being particularly important to glob-

al cereal trade—India, Brazil, Mexico, and Nigeria—in which improved agricultural production growth rates are forecast, implying substantially reduced growth in total LDC cereal imports.

Conclusions

The decline in U.S. agricultural exports will probably be exacerbated by foreign exchange difficulties in LDC's. In addition, the United States will be expected to play a significant role in alleviating the foreign exchange difficulties of LDC's, and this research points out that such a role is justified not only on humanitarian grounds, but also on commercial grounds, since it affects our export markets. The analysis also illustrates the point that trade must be viewed as a two-way street. The United States and the other developed countries must expect to serve as a market for LDC exports if they expect to continue to sell export goods to those countries. The results also suggest the need for greater quantities of development assistance to the poorer LDC's.

The results highlight the importance of export sector performance and agricultural sector performance for both economic development in LDC's and for the expansion of agricultural trade between LDC's and developed countries. The importance of the export sector is consistent with the literature on the relationship between trade and economic development, which emphasizes the importance of export promotion and the success of export-led growth strategies (3, 6, 15).

This report, in examining the role of the agricultural sector and agricultural trade, found two types of LDC's: (1) those for which export performance has been excellent so that agricultural trade (both imports and exports) is likely to grow at a sustained rapid rate, and (2) those for which foreign exchange shortages are likely to limit seriously the ability to import needed food, so that reductions in the growth of cereal expansion of imports and exports of other agricultural goods may be expected. About half of the 31 countries examined were found in each category.

For the foreign exchange-constrained cases, the availability of foreign exchange to finance imports of agricultural goods as well as energy, capital, and intermediate goods for economic development is likely to

be insufficient to maintain past trends. Foreign exchange shortages will likely act as a brake on economic growth. This constraint may be reduced through either improved export performance by LDC's, which will depend upon the extent to which markets for their goods are available, or by increased net capital inflows from loans or aid. In the long run, export performance must improve, if those foreign capital inflows are in the form of loans or if the need for aid is to diminish.

For the savings-constrained cases, past economic performance, and particularly export performance, has been so good that economic development (and agricultural trade) will be limited only by substantial reduction in export earnings. Recent events in Mexico and Brazil suggest that just such a reduction is possible in the short run, although there is reason to believe that all these countries will see a return to growing agricultural trade in the long run.

Five countries are crucial to LDC agricultural trade over the next decade: China, India, Brazil, Mexico, and Nigeria. Great uncertainties exist over the prospects for export growth and agricultural sector performance in these five countries.

Foreign exchange shortages could be an important factor limiting the expansion of cereal imports by India and Nigeria. Projections of India's food gap results from rapid population growth and an optimistic assumption about income growth. Cereal imports for India in the IFPRI gap scenario are unrealistic, given the demand-reducing measures used in the past in India to curb expansion of agricultural imports along with India's recently improved agricultural production growth. The magnitude of the projected Indian food gap suggests great uncertainty over prospects for cereal imports by that country. Nigeria's food gap is due largely to the poor performance of its agricultural sector over the last decade, coupled with strong economic growth that allow increased expansion of agricultural imports, paid for by oil revenues. Lower energy prices, the lack of other strong exports, and the poor agricultural performance may lead to lower real income rather than increased cereal imports by Nigeria.

China, Brazil, and Mexico were included among countries for which longrun trends indicate that foreign exchange availability is unlikely to be a constraint.

However, as indicated above, recent events in Brazil and Mexico suggest that problems in international financial markets and the effects of worldwide recession in LDC exports could interrupt, even reverse, these longrun trends. Projections for China must be viewed with some skepticism as well, since they are based on trends derived from data over a shorter time period and reflect the recent opening of the Chinese economy to more international trade.

Other countries included among the savings-constrained countries, particularly the newly industrializing countries and some members of OPEC, are important to aggregate LDC agricultural trade projections and particularly to forecasts of growth in LDC cereal imports. These countries are not likely to reduce significantly their expansion of agricultural imports, even if faced with substantial declines in foreign exchange earnings. On the other hand, a number of foreign exchange-constrained countries, which individually may not have a substantial impact on the volume of international agricultural trade, are likely to face serious problems due to foreign exchange shortages, including slower growth in cereal imports. In addition, extreme deterioration in the foreign exchange positions of some savings-constrained countries could ultimately put them in the same situation as the foreign exchange-constrained countries, so that foreign exchange availability would be limiting economic performance and agricultural trade.

The LDC's emerged in the last decade as an important component of world grain trade. Growth in agricultural imports by LDC's is unlikely to equal the rapid growth of the last decade, and since LDC's accounted for about half of the growth in world cereal imports, a significant reduction is possible over the next decade.

The cases of Brazil and Mexico point to the fragile nature of LDC trade positions and the importance of two-way trade with developed countries. The current debt difficulties in these countries as well as in other LDC's are due in part to increased protectionism in the developed countries, including the United States,

as they seek to protect domestic industries. Increased protectionism on the part of developed countries is likely to have a serious impact on LDC foreign exchange positions, which will in turn have serious repercussions for LDC economic development and on agricultural trade. Any serious deterioration in their export positions will likely retard continued growth in world grain trade. Furthermore, comparative advantage would seem to indicate a continuation of the rate of growth in LDC agricultural trade, while increased protectionism is likely to lead to a reversal of those trends and welfare losses in both developed countries and LDC's.

Agricultural exports were found to be significant foreign exchange earners for countries with strong foreign exchange earnings growth, while agricultural exports were not as large for countries likely to experience trade deficits. Agricultural imports, particularly cereal imports, on the other hand, were significant for all LDC's studies here and will continue to grow if the LDC's foreign exchange difficulties are resolved.

Some LDC's may adopt policies to lessen the impacts of their foreign exchange difficulties by bringing about structural adjustments. The impacts of such adjustments in the agricultural sector are uncertain. Some countries could expand their agricultural sectors and thereby reduce their agricultural imports, while other countries may de-emphasize their agricultural sectors and thereby raise their need to import. The latter scenario is likely to be the exception, since most LDC's have held their domestic agricultural prices below world market levels. That policy, with its depressing effect on agricultural production, has been partly responsible for the increased cereal imports by LDC's over the last decade.

Expansion of agricultural production in LDC's and, more important, a move toward self-sufficiency in grains will mean lower agricultural imports by LDC's and, hence, lower agricultural exports by the United States. If LDC's are unable to find markets for export goods, such an adjustment in agricultural trade is inevitable.

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APPENDIX TABLE 1 -- AFGHANISTAN
AGRICULTURAL TRADE PROJECTIONS AND IMPLIED FOREIGN EXCHANGE DEFICITS

ITEM	UNIT	1979	1990 PROJECTIONS		GROWTH RATES 1/		
			IFPRI GAP	CONSTANT DEFICIT	HISTORICAL	IFPRI GAP	CONSTANT DEFICIT
POPULATION	MILLIONS	15.50	20.86	20.86	2.60	2.70	2.70
GDP	MIL. DOL.	2635.00	3746.73	3746.73	3.10	3.20	3.20
GDP PER CAPITA	DOLLARS	170.00	179.61	179.61	.50	.50	.50
CEREALS							
PRODUCTION	1000 M.T.	3840.00	4286.51	4286.51	1.00	1.00	1.00
CONSUMPTION	DO.	3955.00	5396.39	5396.39	2.72	2.82	2.82
NET IMPORTS	DO.	115.00	1109.88	1109.88			
NET IMPORTS	MIL. DOL.	24.70	238.38	238.38			
SELF-SUFFICIENCY RATIO	PERCENT	97.09	79.43	79.43			
OTHER AGRICULTURAL COMMODITIES							
PRODUCTION	MIL. DOL.	407.27	652.05	652.05	8.76	8.76	8.76
CONSUMPTION	DO.	132.81	185.75	185.75	2.95	3.05	3.05
NET EXPORTS	DO.	274.46	466.30	466.30			
ENERGY							
PRODUCTION	DO.	126.17	92.72	92.72	-2.80	-2.80	-2.80
CONSUMPTION	DO.	45.54	96.35	96.35	6.60	6.81	6.81
NET IMPORTS	DO.	-80.63	3.63	3.63			
INDUSTRIAL AND OTHER GOODS							
TOTAL PRODUCTION	DO.	1244.03	2044.71	2044.71	3.66	4.52	4.52
INVESTMENT GOODS	DO.	320.88	470.98	470.98			
IMPORT BILL	DO.	686.00	1140.56	1140.56	4.80	4.62	4.62
PERCENT CEREALS	PERCENT	3.50	20.87	20.87			
PERCENT ENERGY	DO.	8.00	12.20	12.20			
PERCENT CAPITAL GOODS	DO.	7.00	6.18	6.18			
EXPORT EARNINGS	MIL. DOL.	494.00	1996.03	1996.03	3.00	12.69	12.69
NET FOREIGN CAPITAL INFLOWS							
TRADE DEFICIT	DO.	192.00	-855.47	-855.47	3.67	-19.28	-19.28
AS PERCENTAGE OF IMPORT BILL	PERCENT	27.99	-75.00	-75.00			
AS PERCENTAGE OF GDP	DO.	7.29	-22.83	-22.83			
SAVINGS - INVESTMENT BALANCE							
TOTAL INVESTMENT	MIL. DOL.	368.90	541.46	541.46			
AS PERCENTAGE OF GDP	PERCENT	14.00	14.45	14.45			
DOMESTIC SAVING	MIL. DOL.	176.90	1396.94	1396.94			
AS PERCENTAGE OF GDP	PERCENT	6.71	37.28	37.28			

1/ GROWTH RATES ARE REPORTED IN PERCENT PER ANNUM.

APPENDIX TABLE 2 -- ALGERIA
AGRICULTURAL TRADE PROJECTIONS AND IMPLIED FOREIGN EXCHANGE DEFICITS

ITEM	UNIT	1979	1990 PROJECTIONS		GROWTH RATES 1/		
			IFPRI GAP	CONSTANT DEFICIT	HISTORICAL	IFPRI GAP	CONSTANT DEFICIT
POPULATION	MILLIONS	18.20	26.45	26.45	3.30	3.40	3.40
GDP	MIL. DOL.	28938.00	58507.54	47832.88	5.70	6.40	4.57
GDP PER CAPITA	DOLLARS	1590.00	2211.64	1808.13	2.40	3.00	1.17
CEREALS							
PRODUCTION	1000 M.T.	1689.00	1325.96	1325.96	-2.20	-2.20	-2.20
CONSUMPTION	DO.	4319.00	6817.71	6482.87	3.90	4.15	3.69
NET IMPORTS	DO.	2630.00	5491.75	5156.91			
NET IMPORTS	MIL. DOL.	484.40	1011.48	949.81			
SELF-SUFFICIENCY RATIO	PERCENT	39.11	19.45	20.45			
OTHER AGRICULTURAL COMMODITIES							
PRODUCTION	MIL. DOL.	1389.60	1709.15	1709.15	1.88	1.88	1.88
CONSUMPTION	DO.	2152.12	3453.73	3251.19	4.02	4.30	3.75
NET EXPORTS	DO.	-762.52	-1744.58	-1542.04			
ENERGY							
PRODUCTION	DO.	7123.67	14562.11	14562.11	6.50	6.50	6.50
CONSUMPTION	DO.	851.98	3892.17	2520.04	12.30	13.81	9.86
NET IMPORTS	DO.	-6271.69	-10669.94	-12042.07			
INDUSTRIAL AND OTHER GOODS							
TOTAL PRODUCTION	DO.	19788.67	41736.93	31062.27	5.91	6.78	4.10
INVESTMENT GOODS	DO.	8970.72	20364.59	11885.12			
IMPORT BILL	DO.	8360.00	17558.17	12627.79	14.20	6.75	3.75
PERCENT CEREALS	PERCENT	5.79	5.76	7.52			
PERCENT ENERGY	DO.	2.00	.95	1.32			
PERCENT CAPITAL GOODS	DO.	45.00	48.64	39.47			
EXPORT EARNINGS	MIL. DOL.	8714.00	11255.35	12627.48	0	2.33	3.37
NET FOREIGN CAPITAL INFLOWS							
TRADE DEFICIT	DO.	-354.00	6302.81	.31	13.62	6.94	.37
AS PERCENTAGE OF IMPORT BILL	PERCENT	-4.23	35.90	.00			
AS PERCENTAGE OF GDP	DO.	-1.22	10.77	.00			
SAVINGS - INVESTMENT BALANCE							
TOTAL INVESTMENT	MIL. DOL.	12732.72	28904.78	16869.32			
AS PERCENTAGE OF GDP	PERCENT	44.00	49.40	35.27			
DOMESTIC SAVING	MIL. DOL.	13088.72	22601.96	16869.01			
AS PERCENTAGE OF GDP	PERCENT	45.22	38.63	35.27			

1/ GROWTH RATES ARE REPORTED IN PERCENT PER ANNUM.

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APPENDIX TABLE 3 -- BANGLADESH
AGRICULTURAL TRADE PROJECTIONS AND IMPLIED FOREIGN EXCHANGE DEFICITS

ITEM	UNIT	1979	1990 PROJECTIONS		GROWTH RATES 1/		
			IFPRI GAP	CONSTANT DEFICIT	HISTORICAL	IFPRI GAP	CONSTANT DEFICIT
POPULATION	MILLIONS	88.90	116.65	116.65	3.00	2.47	2.47
GDP	MIL. DOL.	8001.00	11092.47	9235.83	2.90	2.97	1.30
GDP PER CAPITA	DOLLARS	90.00	95.09	79.17	-.10	.50	-1.17
CEREALS							
PRODUCTION	1000 M.T.	19902.00	24259.79	24259.79	1.80	1.80	1.80
CONSUMPTION	DO.	21095.00	28452.50	25962.37	2.95	2.72	1.89
NET IMPORTS	DO.	1193.00	4192.71	1702.58			
NET IMPORTS	MIL. DOL.	177.73	624.62	253.65			
SELF-SUFFICIENCY RATIO	PERCENT	94.34	85.26	93.44			
OTHER AGRICULTURAL COMMODITIES							
PRODUCTION	MIL. DOL.	573.51	761.82	751.39	2.58	2.58	2.58
CONSUMPTION	DO.	480.23	654.89	576.08	2.93	2.82	1.65
NET EXPORTS	DO.	93.28	106.93	175.31			
ENERGY							
PRODUCTION	DO.	125.82	382.16	382.16	10.10	10.10	10.10
CONSUMPTION	DO.	316.87	644.33	432.80	6.30	6.45	2.83
NET IMPORTS	DO.	191.05	262.17	50.64			
INDUSTRIAL AND OTHER GOODS							
TOTAL PRODUCTION	DO.	3394.62	5185.94	3339.74	5.03	3.85	-.15
INVESTMENT GOODS	DO.	843.48	1197.62	438.07			
IMPORT BILL	DO.	1537.00	2367.69	1303.61	.60	3.93	-1.50
PERCENT CEREALS	PERCENT	11.52	26.35	19.41			
PERCENT ENERGY	DO.	15.00	12.74	6.91			
PERCENT CAPITAL GOODS	DO.	18.00	16.59	11.02			
EXPORT EARNINGS	MIL. DOL.	662.00	428.56	428.56	-4.10	-3.95	-3.95
NET FOREIGN CAPITAL INFLOWS							
TRADE DEFICIT	DO.	875.00	1939.13	875.06	5.49	14.61	.00
AS PERCENTAGE OF IMPORT BILL	PERCENT	56.93	81.90	67.13			
AS PERCENTAGE OF GDP	DO.	10.94	17.48	9.47			
SAVINGS - INVESTMENT BALANCE							
TOTAL INVESTMENT	MIL. DOL.	1120.14	1590.43	581.75			
AS PERCENTAGE OF GDP	PERCENT	14.00	14.34	6.30			
DOMESTIC SAVING	MIL. DOL.	245.14	0	0			
AS PERCENTAGE OF GDP	PERCENT	3.06	0	0			

1/ GROWTH RATES ARE REPORTED IN PERCENT PER ANNUM.

APPENDIX TABLE 4 -- BRAZIL
AGRICULTURAL TRADE PROJECTIONS AND IMPLIED FOREIGN EXCHANGE DEFICITS

ITEM	UNIT	1979	1990 PROJECTIONS		GROWTH RATES 1/		
			IFPRI GAP	CONSTANT DEFICIT	HISTORICAL	IFPRI GAP	CONSTANT DEFICIT
POPULATION	MILLIONS	116.50	158.35	158.35	2.20	2.79	2.79
GDP	MIL. DOL.	207370.00	392055.98	392055.98	7.00	5.79	5.79
GDP PER CAPITA	DOLLARS	1780.00	2475.92	2475.92	4.80	3.00	3.00
CEREALS							
PRODUCTION	1000 M.T.	27134.00	32001.65	32001.65	1.50	1.50	1.50
CONSUMPTION	DO.	33110.00	46513.16	46513.16	2.68	3.09	3.09
NET IMPORTS	DO.	5976.00	14511.51	14511.51			
NET IMPORTS	MIL. DOL.	1125.95	2734.14	2734.14			
SELF-SUFFICIENCY RATIO	PERCENT	81.95	68.80	68.80			
OTHER AGRICULTURAL COMMODITIES							
PRODUCTION	MIL. DOL.	18476.67	28543.39	28543.39	5.82	5.82	5.82
CONSUMPTION	DO.	10946.92	16158.69	16158.69	3.40	3.54	3.54
NET EXPORTS	DO.	7529.75	12384.69	12384.69			
ENERGY							
PRODUCTION	DO.	2458.47	5609.93	5609.93	7.50	7.50	7.50
CONSUMPTION	DO.	7507.04	15126.25	15126.25	7.70	6.37	6.37
NET IMPORTS	DO.	5048.57	9516.32	9516.32			
INDUSTRIAL AND OTHER GOODS							
TOTAL PRODUCTION	DO.	182100.83	352791.13	352791.13	7.25	6.01	6.01
INVESTMENT GOODS	DO.	42546.06	66533.75	66533.75			
IMPORT BILL	DO.	19804.00	33396.21	33396.21	5.60	4.75	4.75
PERCENT CEREALS	PERCENT	5.72	8.19	8.19			
PERCENT ENERGY	DO.	33.00	32.95	32.95			
PERCENT CAPITAL GOODS	DO.	26.00	24.11	24.11			
EXPORT EARNINGS	MIL. DOL.	15244.00	39805.01	39805.01	7.00	8.73	8.73
NET FOREIGN CAPITAL INFLOWS							
TRADE DEFICIT	DO.	4560.00	-6408.80	-6408.80	.28	-6.54	-6.54
AS PERCENTAGE OF IMPORT BILL	PERCENT	23.03	-19.19	-19.19			
AS PERCENTAGE OF GDP	DO.	2.20	-1.63	-1.63			
SAVINGS - INVESTMENT BALANCE							
TOTAL INVESTMENT	MIL. DOL.	47695.10	74585.85	74585.85			
AS PERCENTAGE OF GDP	PERCENT	23.00	19.02	19.02			
DOMESTIC SAVING	MIL. DOL.	43135.10	80994.65	80994.65			
AS PERCENTAGE OF GDP	PERCENT	20.80	20.66	20.66			

1/ GROWTH RATES ARE REPORTED IN PERCENT PER ANNUM.

APPENDIX TABLE 5 -- CHAD
AGRICULTURAL TRADE PROJECTIONS AND IMPLIED FOREIGN EXCHANGE DEFICITS

ITEM	UNIT	1979	1990 PROJECTIONS		GROWTH RATES 1/		
			IFPRI GAP	CONSTANT DEFICIT	HISTORICAL	IFPRI GAP	CONSTANT DEFICIT
POPULATION	MILLIONS	4.40	5.58	5.58	2.00	2.16	2.16
GDP	MIL. DOL.	484.00	648.51	384.01	.60	2.66	-2.10
GDP PER CAPITA	DOLLARS	110.00	116.22	68.82	-1.40	.50	-4.26
CEREALS							
PRODUCTION	1000 M.T.	844.00	596.27	596.27	-.70	-.70	-.70
CONSUMPTION	DO.	664.00	865.56	666.05	1.30	2.41	.03
NET IMPORTS	DO.	20.00	269.29	69.78			
NET IMPORTS	MIL. DOL.	5.80	78.09	20.24			
SELF-SUFFICIENCY RATIO	PERCENT	96.99	68.89	89.52			
OTHER AGRICULTURAL COMMODITIES							
PRODUCTION	MIL. DOL.	254.10	274.07	210.87	1.17	1.17	1.17
CONSUMPTION	DO.	156.18	205.84	142.63	1.02	2.51	-.82
NET EXPORTS	DO.	97.92	68.23	68.23			
ENERGY							
PRODUCTION	DO.	0	0	0	0	0	0
CONSUMPTION	DO.	12.29	115.80	2.08	4.60	20.39	-16.13
NET IMPORTS	DO.	12.29	115.80	2.08			
INDUSTRIAL AND OTHER GOODS							
TOTAL PRODUCTION	DO.	145.20	296.02	94.71	.08	6.48	-3.88
INVESTMENT GOODS	DO.	0	0	0			
IMPORT BILL	DO.	192.00	426.93	160.30	-.10	7.26	-1.64
PERCENT CEREALS	PERCENT	2.60	18.27	12.48			
PERCENT ENERGY	DO.	6.40	27.12	1.30			
PERCENT CAPITAL GOODS	DO.	0	0	0			
EXPORT EARNINGS	MIL. DOL.	102.00	70.30	70.30	-3.40	-3.38	-3.38
NET FOREIGN CAPITAL INFLOWS							
TRADE DEFICIT	DO.	90.00	356.63	90.00	3.21	23.76	.00
AS PERCENTAGE OF IMPORT BILL	PERCENT	46.88	83.53	56.15			
AS PERCENTAGE OF GDP	DO.	18.60	54.99	23.44			
SAVINGS - INVESTMENT BALANCE							
TOTAL INVESTMENT	MIL. DOL.	0	0	0			
AS PERCENTAGE OF GDP	PERCENT	0	0	0			
DOMESTIC SAVING	MIL. DOL.	0	0	0			
AS PERCENTAGE OF GDP	PERCENT	0	0	0			

1/ GROWTH RATES ARE REPORTED IN PERCENT PER ANNUM.

APPENDIX TABLE 6 -- CHILE
AGRICULTURAL TRADE PROJECTIONS AND IMPLIED FOREIGN EXCHANGE DEFICITS

ITEM	UNIT	1979	1990 PROJECTIONS		GROWTH RATES 1/		
			IFPRI GAP	CONSTANT DEFICIT	HISTORICAL	IFPRI GAP	CONSTANT DEFICIT
POPULATION	MILLIONS	10.90	13.27	13.27	1.70	1.79	1.79
GDP	MIL. DOL.	18421.00	25877.95	25877.95	2.90	3.09	3.09
GDP PER CAPITA	DOLLARS	1690.00	1949.80	1949.80	1.20	1.30	1.30
CEREALS							
PRODUCTION	1000 M.T.	1937.00	2069.16	2069.16	.60	.60	.60
CONSUMPTION	DO.	3050.00	3713.75	3713.75	1.70	1.79	1.79
NET IMPORTS	DO.	1113.00	1644.59	1644.59			
NET IMPORTS	MIL. DOL.	207.34	306.37	306.37			
SELF-SUFFICIENCY RATIO	PERCENT	63.51	55.72	55.72			
OTHER AGRICULTURAL COMMODITIES							
PRODUCTION	MIL. DOL.	1211.36	1907.56	1907.56	4.13	4.13	4.13
CONSUMPTION	DO.	846.02	1067.62	1067.62	2.00	2.11	2.11
NET EXPORTS	DO.	365.35	839.94	839.94			
ENERGY							
PRODUCTION	DO.	661.04	668.36	668.36	.10	.10	.10
CONSUMPTION	DO.	1233.56	1339.03	1339.03	.70	.75	.75
NET IMPORTS	DO.	572.51	670.68	670.68			
INDUSTRIAL AND OTHER GOODS							
TOTAL PRODUCTION	DO.	16286.28	23021.82	23021.82	2.96	3.15	3.15
INVESTMENT GOODS	DO.	2019.18	3022.40	3022.40			
IMPORT BILL	DO.	4219.00	6322.17	6322.17	.60	3.68	3.63
PERCENT CEREALS	PERCENT	5.05	4.84	4.84			
PERCENT ENERGY	DO.	16.00	12.23	12.23			
PERCENT CAPITAL GOODS	DO.	22.00	21.98	21.98			
EXPORT EARNINGS	MIL. DOL.	3766.00	8800.08	8800.08	10.70	7.72	7.72
NET FOREIGN CAPITAL INFLOWS							
TRADE DEFICIT	DO.	453.00	-2477.91	-2477.91	-10.03	-7.08	-7.08
AS PERCENTAGE OF IMPORT BILL	PERCENT	10.74	-39.19	-39.19			
AS PERCENTAGE OF GDP	DO.	2.46	-9.58	-9.58			
SAVINGS - INVESTMENT BALANCE							
TOTAL INVESTMENT	MIL. DOL.	2947.36	4411.74	4411.74			
AS PERCENTAGE OF GJP	PERCENT	16.00	17.05	17.05			
DOMESTIC SAVING	MIL. DOL.	2494.36	6889.66	6889.66			
AS PERCENTAGE OF GDP	PERCENT	13.54	26.62	26.62			

1/ GROWTH RATES ARE REPORTED IN PERCENT PER ANNUM.

APPENDIX TABLE 7 -- CHINA
AGRICULTURAL TRADE PROJECTIONS AND IMPLIED FOREIGN EXCHANGE DEFICITS

ITEM	UNIT	1979	1990 PROJECTIONS IFPRI GAP	CONSTANT DEFICIT	GROWTH RATES 1/ HISTORICAL	IFPRI GAP	CONSTANT DEFICIT
POPULATION	MILLIONS	964.50	1279.61	1279.61	1.90	2.57	2.57
GDP	MIL. DOL.	250770.00	570342.00	570403.17	7.70	7.47	7.47
GDP PER CAPITA	DOLLARS	260.00	445.72	445.76	5.80	4.90	4.90
CEREALS							
PRODUCTION	1000 M.T.	295543.00	344748.22	344748.22	1.40	1.40	1.40
CONSUMPTION	DO.	309252.00	419228.65	419230.45	2.13	2.77	2.77
NET IMPORTS	DO.	13789.00	74480.44	74482.23			
NET IMPORTS	MIL. DOL.	2362.87	12837.35	12837.66			
SELF-SUFFICIENCY RATIO	PERCENT	95.57	82.23	82.23			
OTHER AGRICULTURAL COMMODITIES							
PRODUCTION	MIL. DOL.	33427.64	61796.59	61796.59	5.59	5.59	5.59
CONSUMPTION	DO.	28684.94	55499.39	55503.56	5.96	6.00	6.00
NET EXPORTS	DO.	4742.71	6297.20	6293.03			
ENERGY							
PRODUCTION	DO.	68991.58	179645.33	179645.33	8.70	8.70	8.70
CONSUMPTION	DO.	65369.08	161922.99	161942.16	8.50	8.25	8.25
NET IMPORTS	DO.	-3622.50	-17722.34	-17703.17			
INDUSTRIAL AND OTHER GOODS							
TOTAL PRODUCTION	DO.	104039.72	277211.64	277272.81	10.75	8.91	8.91
INVESTMENT GOODS	DO.	74630.82	164667.49	164706.64			
IMPORT BILL	DO.	17266.00	56800.28	56809.12	12.50	10.83	10.83
PERCENT CEREALS	PERCENT	15.24	22.60	22.60			
PERCENT ENERGY	DO.	0	0	0			
PERCENT CAPITAL GOODS	DO.	18.00	12.07	12.07			
EXPORT EARNINGS	MIL. DOL.	13987.00	53551.51	53532.34	11.50	12.20	12.20
NET FOREIGN CAPITAL INFLOWS							
TRADE DEFICIT	DO.	3279.00	3248.77	3276.78	3.93	-.02	-.00
AS PERCENTAGE OF IMPORT BILL	PERCENT	18.99	5.72	5.77			
AS PERCENTAGE OF GDP	DO.	1.31	.57	.57			
SAVINGS - INVESTMENT BALANCE							
TOTAL INVESTMENT	MIL. DOL.	77738.70	171524.80	171565.59			
AS PERCENTAGE OF GDP	PERCENT	31.00	30.07	30.08			
DOMESTIC SAVING	MIL. DOL.	74459.70	168276.03	168288.80			
AS PERCENTAGE OF GDP	PERCENT	29.69	29.50	29.50			

1/ GROWTH RATES ARE REPORTED IN PERCENT PER ANNUM.

APPENDIX TABLE 8 -- COLOMBIA
AGRICULTURAL TRADE PROJECTIONS AND IMPLIED FOREIGN EXCHANGE DEFICITS
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| ITEM | UNIT | 1979 | 1990 PROJECTIONS | | GROWTH RATES 1/ | | |
			IFPRI GAP	CONSTANT DEFICIT	HISTORICAL	IFPRI GAP	CONSTANT DEFICIT
POPULATION	MILLIONS	26.10	36.30	36.30	2.30	3.00	3.00
GDP	MIL. DOL.	26361.00	45690.28	40987.15	5.30	5.00	4.01
GDP PER CAPITA	DOLLARS	1010.00	1258.54	1128.99	3.00	2.00	1.01
CEREALS							
PRODUCTION	1000 M.T.	3440.00	6955.07	6955.07	6.40	6.40	6.40
CONSUMPTION	DO.	4246.00	6267.50	6086.35	3.11	3.54	3.27
NET IMPORTS	DO.	806.00	-687.58	-868.73			
NET IMPORTS	MIL. DOL.	113.02	-96.41	-121.81			
SELF-SUFFICIENCY RATIO	PERCENT	81.02	110.97	114.27			
OTHER AGRICULTURAL COMMODITIES							
PRODUCTION	MIL. DOL.	6528.57	9431.81	9289.20	4.53	4.53	4.53
CONSUMPTION	DO.	3622.18	5323.20	5180.59	3.05	3.50	3.25
NET EXPORTS	DO.	2906.39	4108.61	4108.61			
ENERGY							
PRODUCTION	DO.	1427.67	1778.98	1778.98	2.00	2.00	2.00
CONSUMPTION	DO.	1410.73	2916.91	2527.06	7.00	6.60	5.30
NET IMPORTS	DO.	-16.93	1137.93	748.08			
INDUSTRIAL AND OTHER GOODS							
TOTAL PRODUCTION	DO.	17288.64	32222.88	27662.37	5.94	5.66	4.27
INVESTMENT GOODS	DO.	5099.40	8338.26	6002.64			
IMPORT BILL	DO.	3409.00	6118.19	4886.46	5.80	5.32	3.27
PERCENT CEREALS	PERCENT	3.70	0	0			
PERCENT ENERGY	DO.	7.00	22.78	20.54			
PERCENT CAPITAL GOODS	DO.	36.00	32.80	29.56			
EXPORT EARNINGS	MIL. DOL.	4062.00	4860.82	4886.22	1.20	1.63	1.68
NET FOREIGN CAPITAL INFLOWS							
TRADE DEFICIT	DO.	-653.00	1257.37	.24	3.67	4.28	1.46
AS PERCENTAGE OF IMPORT BILL	PERCENT	-19.16	20.55	.00			
AS PERCENTAGE OF GDP	DO.	-2.48	2.75	.00			
SAVINGS - INVESTMENT BALANCE							
TOTAL INVESTMENT	MIL. DOL.	6326.64	10344.97	7447.25			
AS PERCENTAGE OF GDP	PERCENT	24.00	22.64	18.17			
DOMESTIC SAVING	MIL. DOL.	6979.64	9087.60	7447.01			
AS PERCENTAGE OF GDP	PERCENT	26.48	19.89	18.17			

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1/ GROWTH RATES ARE REPORTED IN PERCENT PER ANNUM.

APPENDIX TABLE 9 -- EGYPT
AGRICULTURAL TRADE PROJECTIONS AND IMPLIED FOREIGN EXCHANGE DEFICITS

ITEM	UNIT	1979	1990 PROJECTIONS		GROWTH RATES 1/		
			IFPRI GAP	CONSTANT DEFICIT	HISTORICAL	IFPRI GAP	CONSTANT DEFICIT
POPULATION	MILLIONS	38.90	49.99	49.99	2.00	2.28	2.29
GDP	MIL. DOL.	18672.00	27080.80	26183.87	5.40	3.38	3.07
GDP PER CAPITA	DOLLARS	480.00	541.74	523.80	3.40	1.10	.79
CEREALS							
PRODUCTION	1000 M.T.	8058.00	8799.24	8799.24	.80	.80	.80
CONSUMPTION	DO.	13363.00	17507.86	17413.76	2.54	2.45	2.41
NET IMPORTS	DO.	5305.00	8708.62	8614.52			
NET IMPORTS	MIL. DOL.	760.18	1247.90	1234.41			
SELF-SUFFICIENCY RATIO	PERCENT	60.30	50.26	50.53			
OTHER AGRICULTURAL COMMODITIES							
PRODUCTION	MIL. DOL.	3143.62	3775.77	3752.06	2.71	2.71	2.71
CONSUMPTION	DO.	2681.86	3530.75	3507.05	2.68	2.50	2.44
NET EXPORTS	DO.	461.76	245.01	245.01			
ENERGY							
PRODUCTION	DO.	2829.73	8786.19	8786.19	10.30	10.30	10.30
CONSUMPTION	DO.	1174.62	7589.97	6409.60	27.10	16.96	15.43
NET IMPORTS	DO.	-1655.11	-1196.23	-2376.59			
INDUSTRIAL AND OTHER GOODS							
TOTAL PRODUCTION	DO.	11547.71	13262.03	12388.80	5.42	1.26	.64
INVESTMENT GOODS	DO.	4368.63	3965.87	3487.15			
IMPORT BILL	DO.	3837.00	4561.18	4327.61	11.10	1.57	1.09
PERCENT CEREALS	PERCENT	20.15	27.34	28.51			
PERCENT ENERGY	DO.	2.00	1.68	1.77			
PERCENT CAPITAL GOODS	DO.	37.06	28.26	26.19			
EXPORT EARNINGS	MIL. DOL.	1840.00	1150.11	2330.48	-2.10	-4.27	2.15
NET FOREIGN CAPITAL INFLOWS							
TRADE DEFICIT	DO.	1997.00	3411.06	1997.13	25.25	6.99	.00
AS PERCENTAGE OF IMPORT BILL	PERCENT	52.05	74.78	46.15			
AS PERCENTAGE OF GDP	DO.	10.70	12.60	7.63			
SAVINGS - INVESTMENT BALANCE							
TOTAL INVESTMENT	MIL. DOL.	5788.32	5254.68	4620.39			
AS PERCENTAGE OF GDP	PERCENT	31.00	19.40	17.65			
DOMESTIC SAVING	MIL. DOL.	3791.32	1843.61	2623.25			
AS PERCENTAGE OF GDP	PERCENT	20.30	6.81	10.02			

1/ GROWTH RATES ARE REPORTED IN PERCENT PER ANNUM.

APPENDIX TABLE 10 -- HONG KONG
AGRICULTURAL TRADE PROJECTIONS AND IMPLIED FOREIGN EXCHANGE DEFICITS

ITEM	UNIT	1979	1990 PROJECTIONS		GROWTH RATES 1/		
			IFPRI GAP	CONSTANT DEFICIT	HISTORICAL	IFPRI GAP	CONSTANT DEFICIT
POPULATION	MILLIONS	5.00	5.83	5.83	2.60	1.40	1.40
GDP	MIL. DOL.	18800.00	38010.29	38010.29	9.60	6.40	6.40
GDP PER CAPITA	DOLLARS	3760.00	6517.03	6517.03	7.00	5.00	5.00
CEREALS							
PRODUCTION	1000 M.T.	1.00	.01	.01	-39.60	-39.60	-39.60
CONSUMPTION	DO.	844.00	1233.55	1233.55	5.47	3.45	3.45
NET IMPORTS	DO.	843.00	1233.54	1233.54			
NET IMPORTS	MIL. DOL.	197.15	288.48	288.48			
SELF-SUFFICIENCY RATIO	PERCENT	.12	.00	.00			
OTHER AGRICULTURAL COMMODITIES							
PRODUCTION	MIL. DOL.	187.06	56.67	56.67	-10.86	-10.86	-10.86
CONSUMPTION	DO.	2257.34	3281.13	3281.13	5.40	3.40	3.40
NET EXPORTS	DO.	-2070.28	-3224.46	-3224.46			
ENERGY							
PRODUCTION	DO.	0	0	0	0	0	0
CONSUMPTION	DO.	832.60	2833.35	2833.35	16.70	11.13	11.13
NET IMPORTS	DO.	832.60	2833.35	2833.35			
INDUSTRIAL AND OTHER GOODS							
TOTAL PRODUCTION	DO.	18612.00	37953.61	37953.61	9.81	6.48	6.48
INVESTMENT GOODS	DO.	2007.97	2706.51	2706.51			
IMPORT BILL	DO.	17137.00	31951.24	31951.24	8.40	5.66	5.66
PERCENT CEREALS	PERCENT	1.15	.90	.90			
PERCENT ENERGY	DO.	5.00	8.94	8.94			
PERCENT CAPITAL GOODS	DO.	19.00	13.74	13.74			
EXPORT EARNINGS	MIL. DOL.	15156.00	38103.14	38103.14	8.30	8.38	8.38
NET FOREIGN CAPITAL INFLOWS							
TRADE DEFICIT	DO.	1981.00	-6151.90	-6151.90	1.20	-4.88	-4.88
AS PERCENTAGE OF IMPORT BILL	PERCENT	11.56	-19.25	-19.25			
AS PERCENTAGE OF GDP	DO.	10.54	-16.18	-16.18			
SAVINGS - INVESTMENT BALANCE							
TOTAL INVESTMENT	MIL. DOL.	5264.00	7095.25	7095.25			
AS PERCENTAGE OF GDP	PERCENT	28.00	18.67	18.67			
DOMESTIC SAVING	MIL. DOL.	3283.00	13247.15	13247.15			
AS PERCENTAGE OF GDP	PERCENT	17.46	34.85	34.85			

1/ GROWTH RATES ARE REPORTED IN PERCENT PER ANNUM.

APPENDIX TABLE 11 -- INDIA
AGRICULTURAL TRADE PROJECTIONS AND IMPLIED FOREIGN EXCHANGE DEFICITS

ITEM	UNIT	1979	1990 PROJECTIONS		GROWTH RATES 1/		
			IFPRI GAP	CONSTANT DEFICIT	HISTORICAL	IFPRI GAP	CONSTANT DEFICIT
POPULATION	MILLIONS	659.20	859.31	859.31	2.10	2.41	2.41
GDP	MIL. DOL.	125248.00	184268.84	174250.65	3.50	3.51	3.00
GDP PER CAPITA	DOLLARS	190.00	214.44	202.78	1.40	1.10	.59
CEREALS							
PRODUCTION	1000 M.T.	129603.00	151180.72	151180.72	1.40	1.40	1.40
CONSUMPTION	DO.	128851.00	177794.20	173183.76	2.76	2.93	2.69
NET IMPORTS	DO.	-752.00	26613.48	22003.04			
NET IMPORTS	MIL. DOL.	-237.73	8413.29	6955.80			
SELF-SUFFICIENCY RATIO	PERCENT	100.58	85.03	87.29			
OTHER AGRICULTURAL COMMODITIES							
PRODUCTION	MIL. DOL.	21417.41	29645.64	29645.64	2.96	2.96	2.96
CONSUMPTION	DO.	21002.30	28735.46	28100.05	2.66	2.85	2.65
NET EXPORTS	DO.	415.11	910.19	1545.59			
ENERGY							
PRODUCTION	DO.	9201.78	25038.05	25038.05	9.10	9.10	9.10
CONSUMPTION	DO.	10570.63	26408.51	23129.81	8.30	8.32	7.12
NET IMPORTS	DO.	1368.85	1370.49	-1908.24			
INDUSTRIAL AND OTHER GOODS							
TOTAL PRODUCTION	DO.	68451.98	99050.11	89031.92	3.96	3.36	2.39
INVESTMENT GOODS	DO.	28341.73	41816.39	33817.77			
IMPORT BILL	DO.	9041.00	19946.56	17085.19	2.30	7.19	5.79
PERCENT CEREALS	PERCENT	1.52	42.18	40.71			
PERCENT ENERGY	DO.	26.00	11.79	13.76			
PERCENT CAPITAL GOODS	DO.	19.00	12.71	12.00			
EXPORT EARNINGS	MIL. DOL.	6998.00	11764.34	15041.42	4.60	4.72	6.96
NET FOREIGN CAPITAL INFLOWS							
TRADE DEFICIT	DO.	2043.00	8182.22	2043.76	-1.63	7.98	.00
AS PERCENTAGE OF IMPORT BILL	PERCENT	22.60	41.02	11.96			
AS PERCENTAGE OF GDP	DO.	1.63	4.44	1.17			
SAVINGS - INVESTMENT BALANCE							
TOTAL INVESTMENT	MIL. DOL.	30059.52	44350.88	35867.47			
AS PERCENTAGE OF GDP	PERCENT	24.00	24.07	20.58			
DOMESTIC SAVING	MIL. DOL.	28016.52	36168.66	33823.70			
AS PERCENTAGE OF GDP	PERCENT	22.37	19.63	19.41			

1/ GROWTH RATES ARE REPORTED IN PERCENT PER ANNUM.

APPENDIX TABLE 12 -- INDONESIA
AGRICULTURAL TRADE PROJECTIONS AND IMPLIED FOREIGN EXCHANGE DEFICITS

ITEM	UNIT	1979	1990 PROJECTIONS		GROWTH RATES 1/		
			IFPRI GAP	CONSTANT DEFICIT	HISTORICAL	IFPRI GAP	CONSTANT DEFICIT
POPULATION	MILLIONS	142.90	187.72	187.72	2.30	2.48	2.48
GDP	MIL. DOL.	52873.00	97679.61	97679.61	6.40	5.58	5.58
GDP PER CAPITA	DOLLARS	370.00	520.35	520.35	4.10	3.10	3.10
CEREALS							
PRODUCTION	1000 M.T.	29550.00	42017.40	42017.40	3.20	3.20	3.20
CONSUMPTION	DO.	32349.00	49038.37	49038.37	4.02	3.78	3.78
NET IMPORTS	DO.	2799.00	7020.98	7020.98			
NET IMPORTS	MIL. DOL.	706.65	1772.55	1772.55			
SELF-SUFFICIENCY RATIO	PERCENT	91.35	85.68	85.68			
OTHER AGRICULTURAL COMMODITIES							
PRODUCTION	MIL. DOL.	6630.27	8165.30	8165.30	4.16	4.16	4.16
CONSUMPTION	DO.	3170.72	4773.88	4773.88	3.94	3.72	3.72
NET EXPORTS	DO.	3459.55	3391.42	3391.42			
ENERGY							
PRODUCTION	DO.	10112.16	20671.13	20671.13	6.50	6.50	6.50
CONSUMPTION	DO.	2479.38	6531.65	6531.65	10.10	8.81	8.81
NET IMPORTS	DO.	-7632.78	-14139.48	-14139.48			
INDUSTRIAL AND OTHER GOODS							
TOTAL PRODUCTION	DO.	26898.94	55716.64	55716.64	8.55	6.62	6.62
INVESTMENT GOODS	DO.	9559.79	15398.29	15398.29			
IMPORT BILL	DO.	7225.00	11550.99	11550.99	12.80	4.27	4.27
PERCENT CEREALS	PERCENT	9.77	15.34	15.34			
PERCENT ENERGY	DO.	9.00	5.63	5.63			
PERCENT CAPITAL GOODS	DO.	36.00	36.27	36.27			
EXPORT EARNINGS	MIL. DOL.	15590.00	49758.56	49758.56	6.50	10.55	10.55
NET FOREIGN CAPITAL INFLOWS							
TRADE DEFICIT	DO.	-8365.00	-38207.57	-38207.57	-.57	-17.40	-17.40
AS PERCENTAGE OF IMPORT BILL	PERCENT	-115.78	-330.77	-330.77			
AS PERCENTAGE OF GDP	DO.	-15.32	-39.12	-39.12			
SAVINGS - INVESTMENT BALANCE							
TOTAL INVESTMENT	MIL. DOL.	12160.79	19587.81	19587.81			
AS PERCENTAGE OF GDP	PERCENT	23.00	20.05	20.05			
DOMESTIC SAVING	MIL. DOL.	20525.79	57795.38	57795.38			
AS PERCENTAGE OF GDP	PERCENT	38.82	59.17	59.17			

1/ GROWTH RATES ARE REPORTED IN PERCENT PER ANNUM.

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APPENDIX TABLE 13 -- IRAN
AGRICULTURAL TRADE PROJECTIONS AND IMPLIED FOREIGN EXCHANGE DEFICITS

ITEM	UNIT	1979	1990 PROJECTIONS IFPRI GAP	1990 PROJECTIONS CONSTANT DEFICIT	GROWTH RATES 1/ HISTORICAL	IFPRI GAP	CONSTANT DEFICIT
POPULATION	MILLIONS	37.00	51.92	51.92	2.90	3.08	3.08
GDP	MIL. DOL.	79920.00	212263.01	38293.82	10.80	8.88	-6.69
GDP PER CAPITA	DOLLARS	2160.00	4088.21	737.54	7.90	5.80	-9.77
CEREALS							
PRODUCTION	1000 M.T.	7204.00	7780.62	7780.62	.70	.70	.70
CONSUMPTION	DO.	9204.00	13591.96	11851.75			
NET IMPORTS	DO.	2000.00	5811.33	4071.12	3.53	3.54	2.30
NET IMPORTS	MIL. DOL.	479.00	1391.81	975.03			
SELF-SUFFICIENCY RATIO	PERCENT	78.27	57.24	65.65			
OTHER AGRICULTURAL COMMODITIES							
PRODUCTION	MIL. DOL.	5344.25	8482.01	6330.87	4.20	4.20	4.20
CONSUMPTION	DO.	5538.99	8830.51	6269.55	4.48	4.24	1.13
NET EXPORTS	DO.	-194.74	-348.50	61.32			
ENERGY							
PRODUCTION	DO.	22797.58	8378.38	8378.38	-9.10	-9.10	-9.10
CONSUMPTION	DO.	3909.73	4437.50	3554.08	1.40	1.15	-.87
NET IMPORTS	DO.	-18887.85	-3940.88	-4824.30			
INDUSTRIAL AND OTHER GOODS							
TOTAL PRODUCTION	DO.	49929.61	193406.11	21588.06	20.98	12.31	-7.62
INVESTMENT GOODS	DO.	26081.46	56956.06	0			
IMPORT BILL	DO.	9738.00	24682.28	4987.78	14.70	8.45	-6.08
PERCENT CEREALS	PERCENT	4.92	5.64	19.55			
PERCENT ENERGY	DO.	0	0	0			
PERCENT CAPITAL GOODS	DO.	3.00	2.58	0			
EXPORT EARNINGS	MIL. DOL.	19872.00	4002.20	4885.62	-4.60	-14.57	-12.75
NET FOREIGN CAPITAL INFLOWS							
TRADE DEFICIT	DO.	-10134.00	20680.08	102.16	11.80	14.10	4.68
AS PERCENTAGE OF IMPORT BILL	PERCENT	-104.07	83.79	2.05			
AS PERCENTAGE OF GDP	DO.	-12.68	9.74	.27			
SAVINGS - INVESTMENT BALANCE							
TOTAL INVESTMENT	MIL. DOL.	26373.60	57594.03	0			
AS PERCENTAGE OF GDP	PERCENT	33.00	27.13	0			
DOMESTIC SAVING	MIL. DOL.	36507.60	36913.95	0			
AS PERCENTAGE OF GDP	PERCENT	45.68	17.39	0			

1/ GROWTH RATES ARE REPORTED IN PERCENT PER ANNUM.

APPENDIX TABLE 14 — IRAQ
AGRICULTURAL TRADE PROJECTIONS AND IMPLIED FOREIGN EXCHANGE DEFICITS

ITEM	UNIT	1979	1990 PROJECTIONS		GROWTH RATES 1/		
			IFPRI GAP	CONSTANT DEFICIT	HISTORICAL	IFPRI GAP	CONSTANT DEFICIT
POPULATION	MILLIONS	12.60	18.31	18.31	3.30	3.40	3.40
GDP	MIL. DOL.	30366.00	65583.46	65583.46	7.90	7.00	7.00
GDP PER CAPITA	DOLLARS	2410.00	3580.95	3580.95	4.60	3.60	3.60
CEREALS							
PRODUCTION	1000 M.T.	2738.00	3766.81	3766.81	2.90	2.90	2.90
CONSUMPTION	DO.	5131.00	8136.99	8136.99	4.31	4.19	4.19
NET IMPORTS	DO.	2393.00	4370.18	4370.18			
NET IMPORTS	MIL. DOL.	613.00	1119.48	1119.48			
SELF-SUFFICIENCY RATIO	PERCENT	53.36	46.29	46.29			
OTHER AGRICULTURAL COMMODITIES							
PRODUCTION	MIL. DOL.	1906.98	1357.88	1357.88	-3.09	-3.09	-3.09
CONSUMPTION	DO.	2133.16	3356.19	3356.19	4.22	4.12	4.12
NET EXPORTS	DO.	-226.18	-1998.31	-1998.31			
ENERGY							
PRODUCTION	DO.	21988.68	60493.00	60493.00	9.20	9.20	9.20
CONSUMPTION	DO.	730.11	940.69	940.69	2.60	2.30	2.30
NET IMPORTS	DO.	-21258.57	-59552.31	-59552.31			
INDUSTRIAL AND OTHER GOODS							
TOTAL PRODUCTION	DO.	5948.04	3014.03	3014.03	7.26	-6.18	-6.18
INVESTMENT GOODS	DO.	6225.66	11914.15	11914.15			
IMPORT BILL	DO.	7028.00	15132.31	15132.31	18.30	6.97	6.97
PERCENT CEREALS	PERCENT	8.72	7.39	7.39			
PERCENT ENERGY	DO.	0	0	0			
PERCENT CAPITAL GOODS	DO.	54.00	48.00	48.00			
EXPORT EARNINGS	MIL. DOL.	21502.00	59598.60	59598.60	2.50	9.27	9.27
NET FOREIGN CAPITAL INFLOWS							
TRADE DEFICIT	DO.	-14474.00	-44466.29	-44466.29	3.48	-12.68	-12.68
AS PERCENTAGE OF IMPORT BILL	PERCENT	-205.95	-293.85	-293.85			
AS PERCENTAGE OF GDP	DO.	-47.67	-67.80	-67.80			
SAVINGS - INVESTMENT BALANCE							
TOTAL INVESTMENT	MIL. DOL.	10020.78	19176.94	19176.94			
AS PERCENTAGE OF GDP	PERCENT	33.00	29.24	29.24			
DOMESTIC SAVING	MIL. DOL.	24494.78	63643.23	63643.23			
AS PERCENTAGE OF GDP	PERCENT	80.67	97.04	97.04			

1/ GROWTH RATES ARE REPORTED IN PERCENT PER ANNUM.

APPENDIX TABLE 15 -- MALI
AGRICULTURAL TRADE PROJECTIONS AND IMPLIED FOREIGN EXCHANGE DEFICITS

ITEM	UNIT	1979	1990 PROJECTIONS		GROWTH RATES 1/		
			IFPRI GAP	CONSTANT DEFICIT	HISTORICAL	IFPRI GAP	CONSTANT DEFICIT
POPULATION	MILLIONS	6.80	9.12	9.12	2.60	2.67	2.67
GDP	MIL. DOL.	952.00	1409.89	1409.89	3.70	3.57	3.57
GDP PER CAPITA	DOLLARS	140.00	154.57	154.57	1.10	.90	.90
CEREALS							
PRODUCTION	1000 M.T.	1033.00	1359.98	1359.98	2.50	2.50	2.50
CONSUMPTION	DO.	1068.00	1483.10	1483.10	2.98	2.98	2.98
NET IMPORTS	DO.	35.00	123.13	123.13			
NET IMPORTS	MIL. DOL.	11.70	41.16	41.16			
SELF-SUFFICIENCY RATIO	PERCENT	96.72	91.70	91.70			
OTHER AGRICULTURAL COMMODITIES							
PRODUCTION	MIL. DOL.	166.33	343.27	343.27	6.59	6.59	6.59
CONSUMPTION	DO.	13.60	19.56	19.56	3.37	3.30	3.30
NET EXPORTS	DO.	152.73	323.71	323.71			
ENERGY							
PRODUCTION	DO.	.42	1.05	1.05	8.30	8.30	8.30
CONSUMPTION	DO.	25.62	44.97	44.97	5.30	5.11	5.11
NET IMPORTS	DO.	25.20	43.92	43.92			
INDUSTRIAL AND OTHER GOODS							
TOTAL PRODUCTION	DO.	551.74	758.15	758.15	3.78	2.89	2.89
INVESTMENT GOODS	DO.	88.80	126.89	126.89			
IMPORT BILL	DO.	180.00	280.43	280.43	5.50	4.03	4.03
PERCENT CEREALS	PERCENT	6.11	14.62	14.62			
PERCENT ENERGY	DO.	14.00	15.66	15.66			
PERCENT CAPITAL GOODS	DO.	30.00	27.52	27.52			
EXPORT EARNINGS	MIL. DOL.	177.00	343.27	343.27	6.70	6.02	6.02
NET FOREIGN CAPITAL INFLOWS							
TRADE DEFICIT	DO.	3.00	-62.84	-62.84	-1.11	-3.38	-3.38
AS PERCENTAGE OF IMPORT BILL	PERCENT	1.67	-22.41	-22.41			
AS PERCENTAGE OF GDP	DO.	.32	-4.46	-4.46			
SAVINGS - INVESTMENT BALANCE							
TOTAL INVESTMENT	MIL. DOL.	142.80	204.05	204.05			
AS PERCENTAGE OF GDP	PERCENT	15.00	14.47	14.47			
DOMESTIC SAVING	MIL. DOL.	139.80	266.89	266.89			
AS PERCENTAGE OF GDP	PERCENT	14.68	18.93	18.93			

1/ GROWTH RATES ARE REPORTED IN PERCENT PER ANNUM.

APPENDIX TABLE 16 -- MEXICO
AGRICULTURAL TRADE PROJECTIONS AND IMPLIED FOREIGN EXCHANGE DEFICITS

ITEM	UNIT	1979	1990 PROJECTIONS		GROWTH RATES 1/		
			IFPRI GAP	CONSTANT DEFICIT	HISTORICAL	IFPRI GAP	CONSTANT DEFICIT
POPULATION	MILLIONS	65.60	95.25	95.25	2.90	3.39	3.39
GDP	MIL. DOL.	107584.00	205649.23	205649.23	5.60	5.89	5.89
GDP PER CAPITA	DOLLARS	1640.00	2159.11	2159.11	2.70	2.50	2.50
CEREALS							
PRODUCTION	1000 M.T.	16501.00	19248.27	19248.27	1.40	1.40	1.40
CONSUMPTION	DO.	19793.00	29539.50	29539.50	3.17	3.64	3.64
NET IMPORTS	DO.	3292.00	10291.23	10291.23			
NET IMPORTS	MIL. DOL.	508.76	1590.45	1590.45			
SELF-SUFFICIENCY RATIO	PERCENT	83.37	65.16	65.16			
OTHER AGRICULTURAL COMMODITIES							
PRODUCTION	MIL. DOL.	8380.79	10945.28	10945.28	2.43	2.43	2.43
CONSUMPTION	DO.	6691.72	10407.45	10407.45	3.57	4.01	4.01
NET EXPORTS	DO.	1689.07	537.83	537.83			
ENERGY							
PRODUCTION	DO.	9074.83	49924.13	49924.13	15.50	15.50	15.50
CONSUMPTION	DO.	6271.66	15463.36	15463.36	7.80	8.20	8.20
NET IMPORTS	DO.	-2803.17	-34460.77	-34460.77			
INDUSTRIAL AND OTHER GOODS							
TOTAL PRODUCTION	DO.	87750.77	142006.36	142006.36	5.00	4.38	4.38
INVESTMENT GOODS	DO.	24800.47	49861.64	49861.64			
IMPORT BILL	DO.	11829.00	26079.82	26079.82	5.00	7.19	7.19
PERCENT CEREALS	PERCENT	4.29	6.10	6.10			
PERCENT ENERGY	DO.	3.00	1.36	1.36			
PERCENT CAPITAL GOODS	DO.	45.00	41.04	41.04			
EXPORT EARNINGS	MIL. DOL.	8768.00	41801.46	41801.46	10.90	14.20	14.20
NET FOREIGN CAPITAL INFLOWS							
TRADE DEFICIT	DO.	3061.00	-15721.64	-15721.64	-4.15	-19.47	-19.47
AS PERCENTAGE OF IMPORT BILL	PERCENT	25.88	-60.28	-60.28			
AS PERCENTAGE OF GDP	DO.	2.85	-7.64	-7.64			
SAVINGS - INVESTMENT BALANCE							
TOTAL INVESTMENT	MIL. DOL.	30123.52	60563.70	60563.70			
AS PERCENTAGE OF GDP	PERCENT	28.00	29.45	29.45			
DOMESTIC SAVING	MIL. DOL.	27062.52	76285.34	76285.34			
AS PERCENTAGE OF GDP	PERCENT	25.15	37.09	37.09			

1/ GROWTH RATES ARE REPORTED IN PERCENT PER ANNUM.

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APPENDIX TABLE 17 -- MOROCCO
AGRICULTURAL TRADE PROJECTIONS AND IMPLIED FOREIGN EXCHANGE DEFICITS

ITEM	UNIT	1979	1990 PROJECTIONS		GROWTH RATES 1/		
			IFPRI GAP	CONSTANT DEFICIT	HISTORICAL	IFPRI GAP	CONSTANT DEFICIT
POPULATION	MILLIONS	19.50	27.39	27.39	2.90	3.09	3.09
GDP	MIL. DOL.	14430.00	23646.36	17531.69	5.50	4.49	1.77
GDP PER CAPITA	DOLLARS	740.00	863.20	639.99	2.60	1.40	-1.32
CEREALS							
PRODUCTION	1000 M.T.	4113.00	3979.49	3979.49	-.30	-.30	-.30
CONSUMPTION	DO.	5745.00	8133.00	8012.24	3.03	3.16	3.02
NET IMPORTS	DO.	1632.00	4153.51	4032.75			
NET IMPORTS	MIL. DOL.	269.72	686.44	666.48			
SELF-SUFFICIENCY RATIO	PERCENT	71.59	48.93	49.67			
OTHER AGRICULTURAL COMMODITIES							
PRODUCTION	MIL. DOL.	1927.42	1864.85	1864.85	-.30	-.30	-.30
CONSUMPTION	DO.	1719.02	2529.07	2311.95	3.68	3.51	2.69
NET EXPORTS	DO.	208.40	-664.23	-447.11			
ENERGY							
PRODUCTION	DO.	100.09	167.84	167.84	4.70	4.70	4.70
CONSUMPTION	DO.	517.52	919.44	649.11	6.40	5.22	2.06
NET IMPORTS	DO.	417.43	751.60	481.27			
INDUSTRIAL AND OTHER GOODS							
TOTAL PRODUCTION	DO.	11588.21	20825.82	14711.15	6.88	5.33	2.17
INVESTMENT GOODS	DO.	2215.50	2963.83	866.25			
IMPORT BILL	DO.	3678.00	6264.67	4167.10	8.30	4.84	1.14
PERCENT CEREALS	PERCENT	7.37	10.95	15.98			
PERCENT ENERGY	DO.	15.00	14.14	14.77			
PERCENT CAPITAL GOODS	DO.	30.00	23.56	10.35			
EXPORT EARNINGS	MIL. DOL.	1873.00	2361.95	2361.95	1.30	2.11	2.11
NET FOREIGN CAPITAL INFLOWS							
TRADE DEFICIT	DO.	1805.00	3902.71	1805.14	15.00	10.18	.00
AS PERCENTAGE OF IMPORT BILL	PERCENT	49.08	62.30	43.32			
AS PERCENTAGE OF GDP	DO.	12.51	16.50	10.30			
SAVINGS - INVESTMENT BALANCE							
TOTAL INVESTMENT	MIL. DOL.	3319.90	4439.93	1297.67			
AS PERCENTAGE OF GDP	PERCENT	23.00	18.78	7.40			
DOMESTIC SAVING	MIL. DOL.	1513.90	537.21	0			
AS PERCENTAGE OF GDP	PERCENT	10.49	2.27	0			

1/ GROWTH RATES ARE REPORTED IN PERCENT PER ANNUM.

APPENDIX TABLE 18 -- NIGER
AGRICULTURAL TRADE PROJECTIONS AND IMPLIED FOREIGN EXCHANGE DEFICITS
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| ITEM | UNIT | 1979 | 1990 PROJECTIONS | | GROWTH RATES 1/ | | |
			IFPRI GAP	CONSTANT DEFICIT	HISTORICAL	IFPRI GAP	CONSTANT DEFICIT
POPULATION	MILLIONS	5.20	7.15	7.15	2.80	2.90	2.90
GDP	MIL. DOL.	1404.00	2040.77	1827.89	1.50	3.40	2.40
GDP PER CAPITA	DOLLARS	270.00	285.27	255.51	-1.30	.50	-.50
CEREALS							
PRODUCTION	1000 M.T.	1628.00	3014.25	3014.25	5.60	5.60	5.60
CONSUMPTION	DO.	1655.90	2303.30	2253.11	2.54	3.00	2.80
NET IMPORTS	DO.	27.90	-710.95	-761.14			
NET IMPORTS	MIL. DOL.	8.56	-218.18	-233.59			
SELF-SUFFICIENCY RATIO	PERCENT	98.32	130.87	133.78			
OTHER AGRICULTURAL COMMODITIES							
PRODUCTION	MIL. DOL.	182.24	23.90	23.90	-18.47	-18.47	-18.47
CONSUMPTION	DO.	210.30	300.67	278.36	1.89	3.25	2.55
NET EXPORTS	DO.	-28.06	-276.77	-254.46			
ENERGY							
PRODUCTION	DO.	0	0	0	0	0	0
CONSUMPTION	DO.	44.98	1094.10	427.37	12.80	29.01	20.47
NET IMPORTS	DO.	44.98	1094.10	427.37			
INDUSTRIAL AND OTHER GOODS							
TOTAL PRODUCTION	DO.	786.24	1210.50	997.63	5.22	3.92	2.16
INVESTMENT GOODS	DO.	168.22	554.23	350.20			
IMPORT BILL	DO.	346.00	2135.18	1173.36	6.50	16.54	11.10
PERCENT CEREALS	PERCENT	4.05	0	0			
PERCENT ENERGY	DO.	13.00	51.24	36.42			
PERCENT CAPITAL GOODS	DO.	65.00	34.70	39.90			
EXPORT EARNINGS	MIL. DOL.	158.00	969.95	985.35	11.70	16.50	16.64
NET FOREIGN CAPITAL INFLOWS							
TRADE DEFICIT	DO.	188.00	1165.23	188.01	2.53	56.23	.00
AS PERCENTAGE OF IMPORT BILL	PERCENT	54.34	54.57	16.02			
AS PERCENTAGE OF GDP	DO.	13.39	57.10	10.29			
SAVINGS - INVESTMENT BALANCE							
TOTAL INVESTMENT	MIL. DOL.	393.12	1295.21	~818.40			
AS PERCENTAGE OF GDP	PERCENT	28.00	63.47	44.77			
DOMESTIC SAVING	MIL. DOL.	205.12	129.98	630.39			
AS PERCENTAGE OF GDP	PERCENT	14.61	6.37	34.40			

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1/ GROWTH RATES ARE REPORTED IN PERCENT PER ANNUM.

APPENDIX TABLE 19 -- NIGERIA
AGRICULTURAL TRADE PROJECTIONS AND IMPLIED FOREIGN EXCHANGE DEFICITS

ITEM	UNIT	1979	1990 PROJECTIONS		GROWTH RATES 1/		
			IFPRI GAP	CONSTANT DEFICIT	HISTORICAL	IFPRI GAP	CONSTANT DEFICIT
POPULATION	MILLIONS	82.60	115.27	115.27	2.50	3.03	3.03
GDP	MIL. DOL.	55342.00	154444.08	87427.41	6.20	9.33	4.16
GDP PER CAPITA	DOLLARS	670.00	1339.80	758.43	3.70	6.30	1.13
CEREALS							
PRODUCTION	1000 M.T.	9456.00	9773.25	9773.25	.30	.30	.30
CONSUMPTION	DO.	10889.00	21489.26	16168.12	4.35	6.18	3.59
NET IMPORTS	DO.	1433.00	11716.00	6394.87			
NET IMPORTS	MIL. DOL.	424.32	3469.18	1893.56			
SELF-SUFFICIENCY RATIO	PERCENT	86.84	45.48	60.45			
OTHER AGRICULTURAL COMMODITIES							
PRODUCTION	MIL. DOL.	9508.86	9031.49	9031.49	-.47	-.47	-.47
CONSUMPTION	DO.	9374.56	16106.13	13578.57	3.61	4.92	3.37
NET EXPORTS	DO.	134.30	-7074.64	-4547.08			
ENERGY							
PRODUCTION	DO.	9911.23	11063.69	11063.69	1.00	1.00	1.00
CONSUMPTION	DO.	343.94	433.64	381.36	1.40	2.11	.94
NET IMPORTS	DO.	-9567.28	-10630.04	-10682.33			
INDUSTRIAL AND OTHER GOODS							
TOTAL PRODUCTION	DO.	33255.53	131593.07	64576.40	10.14	12.50	6.03
INVESTMENT GOODS	DO.	11700.46	49137.08	12393.40			
IMPORT BILL	DO.	12399.00	47781.48	20540.01	5.60	12.26	4.59
PERCENT CEREALS	PERCENT	3.42	7.26	9.22			
PERCENT ENERGY	DO.	2.00	.52	1.21			
PERCENT CAPITAL GOODS	DO.	44.00	47.95	28.13			
EXPORT EARNINGS	MIL. DOL.	18073.00	20487.35	20539.64	.30	1.14	1.16
NET FOREIGN CAPITAL INFLOWS							
TRADE DEFICIT	DO.	-5674.00	27294.12	.37	3.54	16.58	2.85
AS PERCENTAGE OF IMPORT BILL	PERCENT	-45.76	57.12	.00			
AS PERCENTAGE OF GDP	DO.	-10.25	17.67	.00			
SAVINGS - INVESTMENT BALANCE							
TOTAL INVESTMENT	MIL. DOL.	17156.02	72048.17	18172.05			
AS PERCENTAGE OF GDP	PERCENT	31.00	46.65	20.79			
DOMESTIC SAVING	MIL. DOL.	22830.02	44754.04	18171.68			
AS PERCENTAGE OF GDP	PERCENT	41.25	28.98	20.78			

1/ GROWTH RATES ARE REPORTED IN PERCENT PER ANNUM.

APPENDIX TABLE 20 -- PAKISTAN
AGRICULTURAL TRADE PROJECTIONS AND IMPLIED FOREIGN EXCHANGE DEFICITS

ITEM	UNIT	1979	1990 PROJECTIONS		GROWTH RATES 1/		
			IFPRI GAP	CONSTANT DEFICIT	HISTORICAL	IFPRI GAP	CONSTANT DEFICIT
POPULATION	MILLIONS	79.70	113.33	113.33			
GDP	MIL. DOL.	20722.00	39220.36	27530.61	3.10	3.20	3.20
GDP PER CAPITA	DOLLARS	260.00	346.08	242.93	6.00	5.80	2.58
					2.90	2.60	-.62
CEREALS							
PRODUCTION	1000 M.T.	16462.00	23928.13	23928.13	3.40	3.40	3.40
CONSUMPTION	DO.	17682.00	27005.68	24719.01	3.82	3.85	3.05
NET IMPORTS	DO.	1220.00	3077.55	790.89			
NET IMPORTS	MIL. DOL.	193.08	487.06	125.17			
SELF-SUFFICIENCY RATIO	PERCENT	93.10	88.60	96.80			
OTHER AGRICULTURAL COMMODITIES							
PRODUCTION	MIL. DOL.	2539.69	2541.29	2541.29	.01	.01	.01
CONSUMPTION	DO.	2335.97	3724.11	3232.54	4.26	4.24	2.95
NET EXPORTS	DO.	203.72	-1182.81	-691.25			
ENERGY							
PRODUCTION	DO.	1136.90	2594.28	2594.28	7.50	7.50	7.50
CONSUMPTION	DO.	1706.38	2903.86	2162.20	5.00	4.83	2.15
NET IMPORTS	DO.	569.48	309.58	-432.08			
INDUSTRIAL AND OTHER GOODS							
TOTAL PRODUCTION	DO.	12954.06	28137.85	16448.10	8.27	7.05	2.17
INVESTMENT GOODS	DO.	2715.96	4969.13	1553.24			
IMPORT BILL	DO.	4056.00	7420.53	4705.06	4.20	5.49	1.35
PERCENT CEREALS	PERCENT	8.73	6.56	2.66			
PERCENT ENERGY	DO.	19.00	6.88	16.38			
PERCENT CAPITAL GOODS	DO.	25.00	25.00	12.33			
EXPORT EARNINGS	MIL. DOL.	2056.00	1703.31	2704.86	-.90	-1.71	2.49
NET FOREIGN CAPITAL INFLOWS							
TRADE DEFICIT	DO.	2000.00	5717.23	2000.20	9.19	16.44	.00
AS PERCENTAGE OF IMPORT BILL	PERCENT	49.31	77.05	42.51			
AS PERCENTAGE OF GDP	DO.	9.65	14.58	7.27			
SAVINGS - INVESTMENT BALANCE							
TOTAL INVESTMENT	MIL. DOL.	3729.96	6824.34	2133.14			
AS PERCENTAGE OF GDP	PERCENT	18.00	17.40	7.75			
DOMESTIC SAVING	MIL. DOL.	1729.96	1107.12	132.94			
AS PERCENTAGE OF GDP	PERCENT	8.35	2.82	.48			

1/ GROWTH RATES ARE REPORTED IN PERCENT PER ANNUM.

APPENDIX TABLE 21 -- PERU
AGRICULTURAL TRADE PROJECTIONS AND IMPLIED FOREIGN EXCHANGE DEFICITS

| ITEM | UNIT | 1979 | 1990 PROJECTIONS | | GROWTH RATES 1/ | | |
			IFPRI GAP	CONSTANT DEFICIT	HISTORICAL	IFPRI GAP	CONSTANT DEFICIT
POPULATION	MILLIONS	17.10	23.47	23.47	2.70	2.88	2.88
GDP	MIL. DOL.	12483.00	20209.80	20209.80	4.40	4.38	4.38
GDP PER CAPITA	DOLLARS	730.00	860.96	860.96	1.70	1.50	1.50
CEREALS							
PRODUCTION	1000 M.T.	1487.00	1454.64	1454.64	-.20	-.20	-.20
CONSUMPTION	DO.	2624.00	3828.79	3828.79	3.33	3.43	3.43
NET IMPORTS	DO.	1137.00	2374.15	2374.15			
NET IMPORTS	MIL. DOL.	209.40	437.24	437.24			
SELF-SUFFICIENCY RATIO	PERCENT	56.67	37.99	37.99			
OTHER AGRICULTURAL COMMODITIES							
PRODUCTION	MIL. DOL.	1049.82	382.02	382.02	.16	.16	.16
CONSUMPTION	DO.	-319.00	-456.34	-456.34	3.12	3.25	3.25
NET EXPORTS	DO.	1368.82	838.36	838.36			
ENERGY							
PRODUCTION	DO.	1513.98	11585.36	11585.36	18.50	18.50	18.50
CONSUMPTION	DO.	934.18	1255.54	1255.54	2.70	2.69	2.69
NET IMPORTS	DO.	-579.80	-10329.82	-10329.82			
INDUSTRIAL AND OTHER GOODS							
TOTAL PRODUCTION	DO.	9720.72	8048.27	8048.27	2.76	-1.72	-1.72
INVESTMENT GOODS	DO.	1057.92	1704.97	1704.97			
IMPORT BILL	DO.	2090.00	3028.66	3028.66	1.60	3.37	3.37
PERCENT CEREALS	PERCENT	10.00	14.43	14.43			
PERCENT ENERGY	DO.	19.00	13.11	13.11			
PERCENT CAPITAL GOODS	DO.	33.00	36.70	36.70			
EXPORT EARNINGS	MIL. DOL.	3474.00	11599.39	11599.39	-3.80	10.96	10.96
NET FOREIGN CAPITAL INFLOWS							
TRADE DEFICIT	DO.	-1384.00	-8570.73	-8570.73	4.76	-18.81	-18.81
AS PERCENTAGE OF IMPORT BILL	PERCENT	-66.22	-282.99	-282.99			
AS PERCENTAGE OF GDP	DO.	-11.09	-42.41	-42.41			
SAVINGS - INVESTMENT BALANCE							
TOTAL INVESTMENT	MIL. DOL.	1747.62	2816.51	2816.51			
AS PERCENTAGE OF GDP	PERCENT	14.00	13.94	13.94			
DOMESTIC SAVING	MIL. DOL.	3131.62	11387.24	11387.24			
AS PERCENTAGE OF GDP	PERCENT	25.09	56.35	56.35			

1/ GROWTH RATES ARE REPORTED IN PERCENT PER ANNUM.

APPENDIX TABLE 22 -- PHILIPPINES
AGRICULTURAL TRADE PROJECTIONS AND IMPLIED FOREIGN EXCHANGE DEFICITS
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ITEM	UNIT	1979	1990 PROJECTIONS		GROWTH RATES 1/		
			IFPRI GAP	CONSTANT DEFICIT	HISTORICAL	IFPRI GAP	CONSTANT DEFICIT

ITEM	UNIT	1979	IFPRI GAP	CONSTANT DEFICIT	HISTORICAL	IFPRI GAP	CONSTANT DEFICIT
POPULATION	MILLIONS	46.70	65.60	65.60	2.60	3.09	3.09
GDP	MIL. DOL.	28020.00	47981.64	47981.64	5.20	4.89	4.89
GDP PER CAPITA	DOLLARS	600.00	731.38	731.38	2.60	1.80	1.80
CEREALS							
PRODUCTION	1000 M.T.	10300.00	15473.73	15473.73	3.70	3.70	3.70
CONSUMPTION	DO.	10908.00	16261.44	16261.44	3.38	3.63	3.63
NET IMPORTS	DO.	608.00	787.70	787.70			
NET IMPORTS	MIL. DOL.	90.56	117.32	117.32			
SELF-SUFFICIENCY RATIO	PERCENT	94.43	95.16	95.16			
OTHER AGRICULTURAL COMMODITIES							
PRODUCTION	MIL. DOL.	4774.61	7545.44	7545.44	5.39	5.39	5.39
CONSUMPTION	DO.	2820.57	4288.94	4288.94	3.64	3.81	3.81
NET EXPORTS	DO.	1954.04	3256.50	3256.50			
ENERGY							
PRODUCTION -	DO.	162.76	2518.21	2518.21	24.90	24.90	24.90
CONSUMPTION -	DO.	1438.52	2567.40	2567.40	5.60	5.27	5.27
NET IMPORTS	DO.	1275.76	49.18	49.18			
INDUSTRIAL AND OTHER GOODS							
TOTAL PRODUCTION	DO.	21132.44	34988.21	34988.21	5.23	4.58	4.58
INVESTMENT GOODS	DO.	6340.29	10209.90	10209.90			
IMPORT BILL	DO.	6613.00	8137.35	8137.35	3.70	1.89	1.89
PERCENT CEREALS	PERCENT	1.74	1.44	1.44			
PERCENT ENERGY	DO.	21.00	1.99	1.99			
PERCENT CAPITAL GOODS	DO.	27.00	35.33	35.33			
EXPORT EARNINGS	MIL. DOL.	4601.00	9883.22	9883.22	6.20	6.95	6.95
NET FOREIGN CAPITAL INFLOWS							
TRADE DEFICIT	DO.	2012.00	-1745.87	-1745.87	-.88	-7.43	-7.43
AS PERCENTAGE OF IMPORT BILL	PERCENT	30.42	-21.46	-21.46			
AS PERCENTAGE OF GDP	DO.	7.18	-3.64	-3.64			
SAVINGS - INVESTMENT BALANCE							
TOTAL INVESTMENT	MIL. DOL.	8125.80	13085.15	13085.15			
AS PERCENTAGE OF GDP	PERCENT	29.00	27.27	27.27			
DOMESTIC SAVING	MIL. DOL.	6113.80	14831.02	14831.02			
AS PERCENTAGE OF GDP	PERCENT	21.82	30.91	30.91			

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1/ GROWTH RATES ARE REPORTED IN PERCENT PER ANNUM.

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APPENDIX TABLE 23 -- PORTUGAL
AGRICULTURAL TRADE PROJECTIONS AND IMPLIED FOREIGN EXCHANGE DEFICITS

ITEM	UNIT	1979	1990 PROJECTIONS		GROWTH RATES 1/		
			IFPRI GAP	CONSTANT DEFICIT	HISTORICAL	IFPRI GAP	CONSTANT DEFICIT
POPULATION	MILLIONS	9.80	11.43	11.43	1.40	1.40	1.40
GDP	MIL. DOL.	21364.00	45636.47	26408.42	6.90	6.90	1.93
GDP PER CAPITA	DOLLARS	2180.00	3992.13	2310.12	5.50	5.50	.53
CEREALS							
PRODUCTION	1000 M.T.	1049.00	625.53	625.53	-4.70	-4.70	-4.70
CONSUMPTION	DO.	4222.00	5729.10	4996.83	2.77	2.77	1.53
NET IMPORTS	DO.	3173.00	5103.58	4371.30			
NET IMPORTS	MIL. DOL.	463.85	746.07	639.03			
SELF-SUFFICIENCY RATIO	PERCENT	24.85	10.92	12.52			
OTHER AGRICULTURAL COMMODITIES							
PRODUCTION	MIL. DOL.	2516.25	2212.87	2212.87	-1.17	-1.17	-1.17
CONSUMPTION	DO.	2228.52	3024.02	2637.50	2.77	2.77	1.53
NET EXPORTS	DO.	287.73	-811.15	-424.63			
ENERGY							
PRODUCTION	DO.	109.01	394.82	394.82	11.70	11.70	11.70
CONSUMPTION	DO.	748.14	1447.49	899.57	6.00	6.00	1.68
NET IMPORTS	DO.	639.13	1052.68	504.75			
INDUSTRIAL AND OTHER GOODS							
TOTAL PRODUCTION	DO.	18477.67	42873.11	23645.05	8.13	7.65	2.24
INVESTMENT GOODS	DO.	2782.36	5943.51	960.54			
IMPORT BILL	DO.	6086.00	12320.74	6036.37	3.30	6.41	-.07
PERCENT CEREALS	PERCENT	7.61	6.05	10.59			
PERCENT ENERGY	DO.	16.00	11.26	13.91			
PERCENT CAPITAL GOODS	DO.	28.00	29.54	9.75			
EXPORT EARNINGS	MIL. DOL.	3468.00	3418.15	3418.15	-.30	-.13	-.13
NET FOREIGN CAPITAL INFLOWS							
TRADE DEFICIT	DO.	2618.00	8902.59	2618.23	6.09	16.47	.00
AS PERCENTAGE OF IMPORT BILL	PERCENT	43.02	72.26	43.37			
AS PERCENTAGE OF GDP	DO.	12.25	19.51	9.91			
SAVINGS - INVESTMENT BALANCE							
TOTAL INVESTMENT	MIL. DOL.	4486.44	9583.66	1548.84			
AS PERCENTAGE OF GDP	PERCENT	21.00	21.00	5.86			
DOMESTIC SAVING	MIL. DOL.	1868.44	681.07	0			
AS PERCENTAGE OF GDP	PERCENT	8.75	1.49	0			

1/ GROWTH RATES ARE REPORTED IN PERCENT PER ANNUM.

APPENDIX TABLE 24 -- SAUDI ARABIA
AGRICULTURAL TRADE PROJECTIONS AND IMPLIED FOREIGN EXCHANGE DEFICITS

ITEM	UNIT	1979	1990 PROJECTIONS		GROWTH RATES 1/		
			IFPRI GAP	CONSTANT DEFICIT	HISTORICAL	IFPRI GAP	CONSTANT DEFICIT
POPULATION	MILLIONS	8.60	12.04	12.04	4.50	3.06	3.06
GDP	MIL. DOL.	62608.00	195682.43	195682.43	10.80	10.36	10.36
GDP PER CAPITA	DOLLARS	7280.00	16250.62	16250.62	6.30	7.30	7.30
CEREALS							
PRODUCTION	1000 M.T.	283.00	337.46	337.46	1.60	1.60	1.60
CONSUMPTION	DO.	2326.00	3500.90	3500.90	5.07	3.72	3.72
NET IMPORTS	DO.	2043.00	3163.44	3163.44			
NET IMPORTS	MIL. DOL.	616.50	954.61	954.61			
SELF-SUFFICIENCY RATIO	PERCENT	12.17	9.64	9.64			
OTHER AGRICULTURAL COMMODITIES							
PRODUCTION	MIL. DOL.	564.72	924.65	924.65	4.48	4.48	4.48
CONSUMPTION	DO.	2616.16	4301.27	4301.27	5.76	4.52	4.52
NET EXPORTS	DO.	-2051.44	-3376.62	-3376.62			
ENERGY							
PRODUCTION	DO.	47315.26	70304.30	70304.30	3.60	3.60	3.60
CONSUMPTION	DO.	1143.87	5172.36	5172.36	14.30	13.72	13.72
NET IMPORTS	DO.	-46171.40	-65131.94	-65131.94			
INDUSTRIAL AND OTHER GOODS							
TOTAL PRODUCTION	DO.	14666.66	124380.32	124380.32	34.31	19.43	19.43
INVESTMENT GOODS	DO.	10231.42	30675.66	30675.66			
IMPORT BILL	DO.	24254.00	69955.31	69955.31	39.00	9.63	9.63
PERCENT CEREALS	PERCENT	2.54	1.36	1.36			
PERCENT ENERGY	DO.	1.00	.35	.35			
PERCENT CAPITAL GOODS	DO.	43.00	44.70	44.70			
EXPORT EARNINGS	MIL. DOL.	63427.00	127881.68	127881.68	5.60	6.37	6.37
NET FOREIGN CAPITAL INFLOWS							
TRADE DEFICIT	DO.	-39173.00	-57926.37	-57926.37	9.31	-2.69	-2.69
AS PERCENTAGE OF IMPORT BILL	PERCENT	-161.51	-82.80	-82.90			
AS PERCENTAGE OF GDP	DO.	-62.57	-29.60	-29.60			
SAVINGS - INVESTMENT BALANCE							
TOTAL INVESTMENT	MIL. DOL.	20660.64	61944.36	61944.36			
AS PERCENTAGE OF GDP	PERCENT	33.00	31.66	31.66			
DOMESTIC SAVING	MIL. DOL.	59933.64	119870.73	119870.73			
AS PERCENTAGE OF GDP	PERCENT	33.57	61.26	61.26			

1/ GROWTH RATES ARE REPORTED IN PERCENT PER ANNUM.

APPENDIX TABLE 25 -- SENEGAL
AGRICULTURAL TRADE PROJECTIONS AND IMPLIED FOREIGN EXCHANGE DEFICITS

ITEM	UNIT	1979	1990 PROJECTIONS		GROWTH RATES 1/		
			IFPRI GAP	CONSTANT DEFICIT	HISTORICAL	IFPRI GAP	CONSTANT DEFICIT
POPULATION	MILLIONS	5.50	7.25	7.25	2.60	2.51	2.51
GDP	MIL. DOL.	2365.00	3293.26	2686.96	2.40	3.01	1.16
GDP PER CAPITA	DOLLARS	430.00	454.31	370.67	-.20	.50	-1.35
CEREALS							
PRODUCTION	1000 M.T.	680.00	915.15	915.15	2.70	2.70	2.70
CONSUMPTION	DO.	1068.00	1426.31	1358.33	2.55	2.63	2.19
NET IMPORTS	DO.	388.00	511.15	443.17			
NET IMPORTS	MIL. DOL.	84.27	111.02	96.25			
SELF-SUFFICIENCY RATIO	PERCENT	63.67	64.16	67.37			
OTHER AGRICULTURAL COMMODITIES							
PRODUCTION	MIL. DOL.	457.46	647.96	631.27	4.05	4.05	4.05
CONSUMPTION	DO.	210.27	281.75	265.06	2.54	2.66	2.11
NET EXPORTS	DO.	247.19	366.21	366.21			
ENERGY							
PRODUCTION	DO.	0	0	0			
CONSUMPTION	DO.	80.81	447.13	156.27	12.40	15.55	5.99
NET IMPORTS	DO.	80.81	447.13	156.27			
INDUSTRIAL AND OTHER GOODS							
TOTAL PRODUCTION	DO.	1679.15	2337.93	1748.32	2.02	3.01	.37
INVESTMENT GOODS	DO.	360.57	629.71	198.05			
IMPORT BILL	DO.	756.00	1300.49	740.86	4.50	4.93	-.18
PERCENT CEREALS	PERCENT	11.51	8.54	12.96			
PERCENT ENERGY	DO.	12.00	35.14	22.43			
PERCENT CAPITAL GOODS	DO.	18.00	18.27	10.09			
EXPORT EARNINGS	MIL. DOL.	421.00	405.85	405.85	-.80	-.33	-.33
NET FOREIGN CAPITAL INFLOWS							
TRADE DEFICIT	DO.	335.00	894.63	335.01	8.88	12.08	.00
AS PERCENTAGE OF IMPORT BILL	PERCENT	44.31	68.79	45.22			
AS PERCENTAGE OF GDP	DO.	14.16	27.17	12.47			
SAVINGS - INVESTMENT BALANCE							
TOTAL INVESTMENT	MIL. DOL.	496.65	867.36	272.79			
AS PERCENTAGE OF GDP	PERCENT	21.00	26.34	10.15			
DOMESTIC SAVING	MIL. DOL.	161.65	0	0			
AS PERCENTAGE OF GDP	PERCENT	6.84	0	0			

1/ GROWTH RATES ARE REPORTED IN PERCENT PER ANNUM.

APPENDIX TABLE 26 -- SINGAPORE
AGRICULTURAL TRADE PROJECTIONS AND IMPLIED FOREIGN EXCHANGE DEFICITS

| ITEM | UNIT | 1979 | 1990 PROJECTIONS | | GROWTH RATES 1/ | | |
			IFPRI GAP	CONSTANT DEFICIT	HISTORICAL	IFPRI GAP	CONSTANT DEFICIT
POPULATION	MILLIONS	2.33	2.72	2.72	1.40	1.40	1.40
GDP	MIL. DOL.	8923.90	19486.72	19486.72	8.80	7.10	7.10
GDP PER CAPITA	DOLLARS	3830.00	7169.71	7169.71	7.40	5.70	5.70
CEREALS							
PRODUCTION	1000 M.T.	0	0	0	0	0	0
CONSUMPTION	DO.	807.00	971.34	971.34	1.77	1.68	1.68
NET IMPORTS	DO.	807.00	971.34	971.34			
NET IMPORTS	MIL. DOL.	146.56	176.40	176.40			
SELF-SUFFICIENCY RATIO	PERCENT	0	0	0			
OTHER AGRICULTURAL COMMODITIES							
PRODUCTION	MIL. DOL.	178.48	215.18	215.18	1.70	1.70	1.70
CONSUMPTION	DO.	285.33	427.71	427.71	4.36	3.68	3.68
NET EXPORTS	DO.	-106.85	-212.54	-212.54			
ENERGY							
PRODUCTION	DO.	0	0	0	0	0	0
CONSUMPTION	DO.	2266.74	10339.48	10339.48	17.10	13.80	13.80
NET IMPORTS	DO.	2266.74	10339.48	10339.48			
INDUSTRIAL AND OTHER GOODS							
TOTAL PRODUCTION	DO.	8745.42	19271.54	19271.54	8.94	7.18	7.18
INVESTMENT GOODS	DO.	0	0	0			
IMPORT BILL	DO.	17635.00	32316.78	32316.78	8.00	5.51	5.51
PERCENT CEREALS	PERCENT	1.30	.54	.54			
PERCENT ENERGY	DO.	24.00	38.08	38.08			
PERCENT CAPITAL GOODS	DO.	29.00	27.88	27.88			
EXPORT EARNINGS	MIL. DOL.	14233.00	55328.50	55328.50	11.00	12.34	12.34
NET FOREIGN CAPITAL INFLOWS							
TRADE DEFICIT	DO.	3402.00	-23011.72	-23011.72	-1.09	-16.87	-16.87
AS PERCENTAGE OF IMPORT BILL	PERCENT	19.29	-71.21	-71.21			
AS PERCENTAGE OF GDP	DO.	38.12	-118.09	-118.09			
SAVINGS - INVESTMENT BALANCE							
TOTAL INVESTMENT	MIL. DOL.	3480.32	6131.67	6131.67			
AS PERCENTAGE OF GDP	PERCENT	39.00	31.47	31.47			
DOMESTIC SAVING	MIL. DOL.	78.32	29143.39	29143.39			
AS PERCENTAGE OF GDP	PERCENT	.88	149.56	149.56			

1/ GROWTH RATES ARE REPORTED IN PERCENT PER ANNUM.

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APPENDIX TABLE 27 -- SRI LANKA
AGRICULTURAL TRADE PROJECTIONS AND IMPLIED FOREIGN EXCHANGE DEFICITS

ITEM	UNIT	1979	1990 PROJECTIONS		GROWTH RATES 1/		
			IFPRI GAP	CONSTANT DEFICIT	HISTORICAL	IFPRI GAP	CONSTANT DEFICIT
POPULATION	MILLIONS	14.50	17.85	17.85	1.70	1.89	1.89
GDP	MIL. DOL.	3335.00	4895.78	4504.24	3.90	3.49	2.73
GDP PER CAPITA	DOLLARS	230.00	274.26	252.33	2.20	1.60	.84
CEREALS							
PRODUCTION	1000 M.T.	1849.00	2133.25	2133.25	1.30	1.30	1.30
CONSUMPTION	DO.	2852.00	3820.57	3670.73	2.76	2.66	2.29
NET IMPORTS	DO.	1003.00	1687.33	1537.48			
NET IMPORTS	MIL. DOL.	106.63	179.38	163.45			
SELF-SUFFICIENCY RATIO	PERCENT	64.83	55.84	58.12			
OTHER AGRICULTURAL COMMODITIES							
PRODUCTION	MIL. DOL.	456.53	444.68	445.13	3.86	3.86	3.86
CONSUMPTION	DO.	-10.31	-13.62	-13.17	2.58	2.53	2.23
NET EXPORTS	DO.	466.84	458.30	458.30			
ENERGY							
PRODUCTION	DO.	18.23	44.93	44.93	8.20	8.20	8.20
CONSUMPTION	DO.	155.03	225.35	207.77	3.80	3.40	2.66
NET IMPORTS	DO.	136.80	180.42	162.84			
INDUSTRIAL AND OTHER GOODS							
TOTAL PRODUCTION	DO.	2416.32	3894.00	3502.02	4.42	4.34	3.37
INVESTMENT GOODS	DO.	519.58	682.56	491.62			
IMPORT BILL	DO.	1448.00	1548.91	1336.70	-.60	.61	-.73
PERCENT CEREALS	PERCENT	7.32	11.56	12.19			
PERCENT ENERGY	DO.	16.00	17.77	19.28			
PERCENT CAPITAL GOODS	DO.	24.00	29.47	24.60			
EXPORT EARNINGS	MIL. DOL.	981.00	869.68	869.68	-3.00	-1.09	-1.09
NET FOREIGN CAPITAL INFLOWS							
TRADE DEFICIT	DO.	467.00	679.23	467.02	2.11	1.97	.00
AS PERCENTAGE OF IMPORT BILL	PERCENT	32.25	43.85	34.94			
AS PERCENTAGE OF GDP	DO.	14.00	13.87	10.37			
SAVINGS - INVESTMENT BALANCE							
TOTAL INVESTMENT	MIL. DOL.	867.10	1139.08	820.44			
AS PERCENTAGE OF GDP	PERCENT	26.00	23.27	18.21			
DOMESTIC SAVING	MIL. DOL.	400.10	459.85	353.42			
AS PERCENTAGE OF GDP	PERCENT	12.00	9.39	7.85			

1/ GROWTH RATES ARE REPORTED IN PERCENT PER ANNUM.

APPENDIX TABLE 28 -- UPPER VOLTA
AGRICULTURAL TRADE PROJECTIONS AND IMPLIED FOREIGN EXCHANGE DEFICITS
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ITEM	UNIT	1979	1990 PROJECTIONS		GROWTH RATES 1/		
			IFPRI GAP	CONSTANT DEFICIT	HISTORICAL	IFPRI GAP	CONSTANT DEFICIT
POPULATION	MILLIONS	5.60	7.32	7.32	1.60	2.43	2.43
GDP	MIL. DOL.	1601.60	2210.69	1012.27	1.90	2.93	-4.17
GDP PER CAPITA	DOLLARS	286.00	302.17	138.36	.30	.50	-6.60
CEREALS							
PRODUCTION	1000 M.T.	1145.00	1292.28	1292.28	1.10	1.10	1.10
CONSUMPTION	DO.	1201.00	1594.25	1271.10	1.69	2.57	.52
NET IMPORTS	DO.	56.00	301.98	-21.18			
NET IMPORTS	MIL. DOL.	14.20	76.57	-5.37			
SELF-SUFFICIENCY RATIO	PERCENT	95.34	81.06	101.67			
OTHER AGRICULTURAL COMMODITIES							
PRODUCTION	MIL. DOL.	585.87	291.12	291.12	-6.36	-6.36	-6.36
CONSUMPTION	DO.	542.98	737.20	426.70	1.81	2.78	-2.19
NET EXPORTS	DO.	42.89	-446.08	-135.58			
ENERGY							
PRODUCTION	DO.	0	0	0	0	0	0
CONSUMPTION	DO.	22.86	128.98	1.95	10.20	15.73	-22.39
NET IMPORTS	DO.	22.86	128.98	1.95			
INDUSTRIAL AND OTHER GOODS							
TOTAL PRODUCTION	DO.	608.61	1460.07	261.65	10.84	7.96	-7.67
INVESTMENT GOODS	DO.	275.16	585.70	0			
IMPORT BILL	DO.	254.00	1094.00	292.30	5.20	13.28	1.28
PERCENT CEREALS	PERCENT	5.51	6.95	0			
PERCENT ENERGY	DO.	9.00	11.79	.67			
PERCENT CAPITAL GOODS	DO.	43.00	21.25	0			
EXPORT EARNINGS	MIL. DOL.	81.00	113.91	119.28	3.10	3.10	3.52
NET FOREIGN CAPITAL INFLOWS							
TRADE DEFICIT	DO.	173.00	980.09	173.02	13.21	90.58	.00
AS PERCENTAGE OF IMPORT BILL	PERCENT	68.11	89.59	59.19			
AS PERCENTAGE OF GDP	DO.	10.80	44.33	17.09			
SAVINGS - INVESTMENT BALANCE							
TOTAL INVESTMENT	MIL. DOL.	384.38	818.19	0			
AS PERCENTAGE OF GDP	PERCENT	24.00	37.01	0			
DOMESTIC SAVING	MIL. DOL.	211.38	0	0			
AS PERCENTAGE OF GDP	PERCENT	13.20	0	0			

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1/ GROWTH RATES ARE REPORTED IN PERCENT PER ANNUM.

APPENDIX TABLE 29 -- VENEZUELA
AGRICULTURAL TRADE PROJECTIONS AND IMPLIED FOREIGN EXCHANGE DEFICITS

ITEM	UNIT	1979	1990 PROJECTIONS		GROWTH RATES 1/		
			IFPRI GAP	CONSTANT DEFICIT	HISTORICAL	IFPRI GAP	CONSTANT DEFICIT
POPULATION	MILLIONS	14.50	19.90	19.90	3.30	2.88	2.88
GDP	MIL. DOL.	45240.00	86382.20	57940.02	6.00	5.88	2.25
GDP PER CAPITA	DOLLARS	3120.00	4339.82	2910.89	2.70	3.00	-.63
CEREALS							
PRODUCTION	1000 M.T.	1931.00	4655.45	4655.45	8.00	8.00	8.00
CONSUMPTION	DO.	3552.00	5191.44	4812.08	3.81	3.45	2.76
NET IMPORTS	DO.	1621.00	535.99	156.63			
NET IMPORTS	MIL. DOL.	276.56	91.45	26.72			
SELF-SUFFICIENCY RATIO	PERCENT	54.36	89.68	96.74			
OTHER AGRICULTURAL COMMODITIES							
PRODUCTION	MIL. DOL.	2328.96	3277.10	3277.10	3.10	3.10	3.10
CONSUMPTION	DO.	3064.96	4569.19	4135.02	3.97	3.63	2.72
NET EXPORTS	DO.	-736.01	-1292.09	-857.92			
ENERGY							
PRODUCTION	DO.	17019.98	11838.86	11838.86	-3.30	-3.30	-3.30
CONSUMPTION	DO.	3395.14	6076.72	4241.97	5.40	5.29	2.02
NET IMPORTS	DO.	-13624.84	-5762.15	-7596.89			
INDUSTRIAL AND OTHER GOODS							
TOTAL PRODUCTION	DO.	25505.62	70336.97	41894.78	12.49	9.22	4.51
INVESTMENT GOODS	DO.	10380.24	19423.84	4983.86			
IMPORT BILL	DO.	9618.00	17287.74	7715.06	12.00	5.33	-2.00
PERCENT CEREALS	PERCENT	3.00	.53	.34			
PERCENT ENERGY	DO.	1.00	.56	1.25			
PERCENT CAPITAL GOODS	DO.	52.00	54.13	31.12			
EXPORT EARNINGS	MIL. DOL.	14159.00	5879.96	7714.70	-10.30	-7.99	-5.52
NET FOREIGN CAPITAL INFLOWS							
TRADE DEFICIT	DO.	-4541.00	11407.78	.36	18.45	10.24	2.92
AS PERCENTAGE OF IMPORT BILL	PERCENT	-47.21	65.99	.00			
AS PERCENTAGE OF GDP	DO.	-10.04	13.21	.00			
SAVINGS - INVESTMENT BALANCE							
TOTAL INVESTMENT	MIL. DOL.	15381.60	28782.55	7385.16			
AS PERCENTAGE OF GDP	PERCENT	34.00	33.32	12.75			
DOMESTIC SAVING	MIL. DOL.	19922.60	17374.77	7384.80			
AS PERCENTAGE OF GDP	PERCENT	44.04	20.11	12.75			

1/ GROWTH RATES ARE REPORTED IN PERCENT PER ANNUM.

APPENDIX TABLE 30 -- SOUTH KOREA
AGRICULTURAL TRADE PROJECTIONS AND IMPLIED FOREIGN EXCHANGE DEFICITS

| ITEM | UNIT | 1979 | 1990 PROJECTIONS | | GROWTH RATES 1/ | | |
			:IFPRI GAP	CONSTANT DEFICIT	HISTORICAL	IFPRI GAP	CONSTANT DEFICIT
POPULATION	MILLIONS	37.80	46.69	46.69	1.90	1.92	1.92
GDP	MIL. DOL.	55944.00	126539.08	126539.08	9.00	7.42	7.42
GDP PER CAPITA	DOLLARS	1480.00	2710.25	2710.25	7.10	5.50	5.50
CEREALS							
PRODUCTION	1000 M.T.	9717.00	12377.46	12377.46	2.20	2.20	2.20
CONSUMPTION	DO.	14528.00	18273.06	18273.06	2.11	2.08	2.08
NET IMPORTS	DO.	4811.00	5895.60	5895.60			
NET IMPORTS	MIL. DOL.	751.96	921.48	921.48			
SELF-SUFFICIENCY RATIO	PERCENT	66.88	67.74	67.74			
OTHER AGRICULTURAL COMMODITIES							
PRODUCTION	MIL. DOL.	7295.10	14409.00	14409.00	6.19	6.19	6.19
CONSUMPTION	DO.	6664.76	10485.92	10485.92	4.74	4.12	4.12
NET EXPORTS	DO.	630.34	3923.08	3923.08			
ENERGY							
PRODUCTION	DO.	1061.06	1684.17	1684.17	4.20	4.20	4.20
CONSUMPTION	DO.	3956.10	11124.09	11124.09	11.40	9.40	9.40
NET IMPORTS	DO.	2895.04	9439.92	9439.92			
INDUSTRIAL AND OTHER GOODS							
TOTAL PRODUCTION	DO.	43694.14	105486.14	105486.14	10.23	8.01	8.01
INVESTMENT GOODS	DO.	12868.53	23997.25	23997.25			
IMPORT BILL	DO.	20339.00	52393.33	52393.33	13.50	8.60	8.60
PERCENT CEREALS	PERCENT	3.69	1.76	1.76			
PERCENT ENERGY	DO.	16.00	18.70	18.70			
PERCENT CAPITAL GOODS	DO.	33.00	23.89	23.89			
EXPORT EARNINGS	MIL. DOL.	15055.00	272771.20	272771.20	20.00	26.34	26.34
NET FOREIGN CAPITAL INFLOWS							
TRADE DEFICIT	DO.	5284.00	-220377.87	-220377.87	-1.76	-136.27	-136.27
AS PERCENTAGE OF IMPORT BILL	PERCENT	25.98	-420.62	-420.62			
AS PERCENTAGE OF GDP	DO.	9.45	-174.16	-174.16			
SAVINGS - INVESTMENT BALANCE							
TOTAL INVESTMENT	MIL. DOL.	19580.40	36513.55	36513.55			
AS PERCENTAGE OF GDP	PERCENT	35.00	28.86	28.86			
DOMESTIC SAVING	MIL. DOL.	14296.40	256891.43	256891.43			
AS PERCENTAGE OF GDP	PERCENT	25.55	203.01	203.01			

1/ GROWTH RATES ARE REPORTED IN PERCENT PER ANNUM.

APPENDIX TABLE 31 -- SUDAN
AGRICULTURAL TRADE PROJECTIONS AND IMPLIED FOREIGN EXCHANGE DEFICITS

ITEM	UNIT	1979	1990 PROJECTIONS		GROWTH RATES 1/		
			IFPRI GAP	CONSTANT DEFICIT	HISTORICAL	IFPRI GAP	CONSTANT DEFICIT
POPULATION	MILLIONS	17.90	25.54	25.54	2.60	3.23	3.23
GDP	MIL. DOL.	6623.00	10900.93	7955.95	3.20	4.53	1.67
GDP PER CAPITA	DOLLARS	370.00	426.88	311.55	.60	1.30	-1.56
CEREALS							
PRODUCTION	1000 M.T.	2676.00	3484.50	3484.50	2.40	2.40	2.40
CONSUMPTION	DO.	2965.00	4543.41	3881.47	2.90	3.88	2.45
NET IMPORTS	DO.	289.00	1058.91	396.97			
NET IMPORTS	MIL. DOL.	60.04	219.97	82.47			
SELF-SUFFICIENCY RATIO	PERCENT	90.25	76.69	89.77			
OTHER AGRICULTURAL COMMODITIES							
PRODUCTION	MIL. DOL.	1862.39	2535.66	2186.10	2.81	2.81	2.81
CONSUMPTION	DO.	1478.40	2331.15	1869.95	3.02	4.14	2.14
NET EXPORTS	DO.	383.99	204.51	316.15			
ENERGY							
PRODUCTION	DO.	3.69	16.65	16.65	13.70	13.70	13.70
CONSUMPTION	DO.	137.67	137.67	137.67	-.90	0	0
NET IMPORTS	DO.	133.98	121.02	121.02			
INDUSTRIAL AND OTHER GOODS							
TOTAL PRODUCTION	DO.	4102.57	7496.57	4901.15	3.64	5.48	1.62
INVESTMENT GOODS	DO.	495.22	1153.87	309.90			
IMPORT BILL	DO.	1200.00	2121.00	959.54	4.50	5.18	-2.03
PERCENT CEREALS	PERCENT	6.00	10.33	8.55			
PERCENT ENERGY	DO.	12.00	6.18	13.66			
PERCENT CAPITAL GOODS	DO.	36.00	47.46	28.17			
EXPORT EARNINGS	MIL. DOL.	581.00	340.48	340.48	-4.40	-4.86	-4.86
NET FOREIGN CAPITAL INFLOWS							
TRADE DEFICIT	DO.	619.00	1780.52	619.06	13.69	18.17	.00
AS PERCENTAGE OF IMPORT BILL	PERCENT	51.58	83.95	64.52			
AS PERCENTAGE OF GDP	DO.	9.35	16.33	7.78			
SAVINGS - INVESTMENT BALANCE							
TOTAL INVESTMENT	MIL. DOL.	927.22	2160.43	580.24			
AS PERCENTAGE OF GDP	PERCENT	14.00	19.82	7.29			
DOMESTIC SAVING	MIL. DOL.	308.22	379.91	0			
AS PERCENTAGE OF GDP	PERCENT	4.65	3.49	0			

1/ GROWTH RATES ARE REPORTED IN PERCENT PER ANNUM.

Appendix table 32—Sensitivity analysis of economic performance of developing countries: Economic growth rate projections for foreign exchange constrained cases

Country	Economic growth rate per capita			
	Base (constant deficit)	Grain prices increased 20%	Energy prices increased 35%	Industrial export earnings growth rate reduced 50%
	Percent per year			
Algeria	1.17	1.10	2.37	1.06
Bangladesh	−1.17	−1.25	−1.20	−1.35
Chad	−4.26	−4.40	−4.29	−4.30
Colombia	1.01	1.03	0.81	.88
Egypt	.79	.74	.94	.83
India	.59	.48	.64	.36
Iran	−9.77	−10.13	−7.10	−9.77
Morocco	−1.32	−1.53	−1.58	−2.00
Niger	−.50	−.43	−.69	−1.30
Nigeria	1.13	1.02	2.09	.73
Pakistan	−.62	−.64	−.49	−.73
Portugal	.53	.38	.33	.40
Senegal	−1.35	−1.44	−1.58	−1.43
Sri Lanka	.84	.72	.63	.26
Sudan	−1.56	−1.62	−1.71	−1.58
Upper Volta	−6.60	−6.58	−6.61	−6.62
Venezuela	−.63	−.63	.35	−.63

Appendix table 34—Sensitivity analysis of economic performance of developing countries: Net foreign capital inflow projections for foreign exchange-constrained cases

Country	Economic growth rate per capita			
	Base (constant deficit)	Grain prices increased 20%	Energy prices increased 35%	Industrial export earnings growth rate reduced 50%
	Percent per year			
Algeria	6.84	7.16	3.05	7.29
Bangladesh	14.61	16.33	15.87	15.92
Chad	23.26	25.16	27.38	23.85
Colombia	4.28	4.23	5.17	4.61
Egypt	6.99	8.22	4.92	6.30
India	7.98	10.16	8.60	11.45
Iran	14.10	14.22	13.47	14.10
Morocco	10.18	10.85	11.46	12.16
Niger	56.20	53.72	78.26	81.23
Nigeria	16.59	16.93	14.71	17.28
Pakistan	16.44	16.87	16.92	16.89
Portugal	15.47	16.87	17.44	16.76
Senegal	12.08	12.56	15.46	12.47
Sri Lanka	1.97	2.30	2.55	3.32
Sudan	18.17	18.86	18.84	18.23
Upper Volta	90.58	92.30	95.65	90.68
Venezuela	10.24	10.25	8.95	10.24

Appendix table 33—Sensitivity analysis of economic performance of developing countries: Economic growth rate projections for savings-constrained cases

Country	Economic growth rate per capita			
	Base (gap forecast)	Grain prices increased 20%	Energy prices increased 35%	Industrial export earnings growth rate reduced 50%
	Percent per year			
Afghanistan	0.50	0.50	0.50	−0.20
Brazil	3.00	3.00	3.00	2.45
Chile	1.30	1.30	1.30	1.30
China	4.90	4.81	4.90	4.60
Hong Kong	5.00	5.00	5.00	3.37
Indonesia	3.10	3.10	3.10	3.10
Iraq	3.60	3.60	5.82	3.60
Mali	.90	.90	.90	.90
Mexico	2.50	2.50	2.50	2.50
Peru	1.50	1.50	1.50	1.50
Philippines	1.80	1.80	1.80	2.29
Saudi Arabia	7.30	7.30	7.30	7.30
Singapore	5.70	5.70	5.70	4.76
South Korea	5.50	5.50	5.50	5.50

Appendix table 35—Sensitivity analysis on economic performance of developing countries: Net foreign capital inflow projections for savings-constrained cases

Country	Economic growth rate per capita			
	Base (gap forecast)	Grain prices increased 20%	Energy prices increased 35%	Industrial export earnings growth rate reduced 50%
	Percent per year			
Afghanistan	−19.28	−18.40	−19.25	1.97
Brazil	−6.55	−6.22	−4.56	1.73
Chile	−7.07	−6.93	−6.51	−1.34
China	−0.02	1.65	−4.05	5.46
Hong Kong	−4.89	−4.84	−4.28	3.68
Indonesia	−17.40	−17.20	−20.29	−4.90
Iraq	−12.68	−12.59	−18.68	−12.68
Mali	−3.38	−2.96	−2.59	−3.38
Mexico	−19.47	−19.14	−31.98	−18.78
Peru	−18.81	−18.58	−28.27	−18.72
Philippines	−7.42	−7.38	−7.39	−1.85
Saudi Arabia	−2.68	−2.66	−5.96	1.57
Singapore	−16.88	−16.85	−14.56	3.12
South Korea	−13.63	−136.15	−134.27	−15.09

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